REVISION HISTORY BG3R CHASSIS

MODEL

KV-AR29M60
KV-AR29M64
KV-AR29M66
KV-AR29M68
KV-AR29M94
KV-AR29N90

PART NO.: 9-872-328-01

NO.	SUFFIX	DATE	SUPPL. / CORR	DESCRIPTION
1	-01	2002/8	--	1st. Issue

Self Diagnosis
Supported model

SERVICE MANUAL

BG3R CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-AR29M60	RM-995	Thailand	SCC-U49Q-A
KV-AR29M64	RM-993	Thailand	SCC-U49N-A
KV-AR29M64	RM-993	India	SCC-U60L-A
KV-AR29M66	RM-993	GE	SCC-U52J-A
KV-AR29M68	RM-993	Thailand	SCC-U49P-A
KV-AR29M94	RM-993	India	SCC-U60L-A
KV-AR29N90	RM-996	Taiwan	SCC-U54E-A

MODEL	COMMANDER	DEST.	CHASSIS NO.

RM-993

RM-995

RM-996

TRINITRON® COLOR TV

SONY®

SPECIFICATIONS
(EXCEPT KV-AR29N90)

				Note
Power requirements	110-240 V AC, 50/60Hz			KV-AR29M64/M94(INDIA)/ AR29M66
	220-240 V AC, 50/60Hz			KV-AR29M60/AR29M64/ M68(THAILAND)/
Power consumption (W)	Indicated on the rear of the TV			
Television system	B/G, I, D/K, M			
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43			
Stereo/Bilingual System	NICAM Stereo/Bilingual B/G, I, A2 Stereo/Bilingual B/G			
Channel coverage				
B/G	VHF: E2 to E12 / UHF: E21 to E69 CATV: S01 to S03, S1 to S41			
I	UHF: B21 to B68 / CATV: S01 to S03, S1 to S41			
D/K	VHF: C1 to C12, R1 to R12 UHF: C13 to C57, R21 to R60 CATV: S01 to S03, S1 to S41, Z1 to Z39			
M	VHF: A2 to A13 / UHF: A14 to A79 CATV: A-8 to A-2, A to W+4, W+6 to W+84			
(Antenna)	75-ohm external terminal			
Audio output (Speaker)	8W + 8W			
Number of terminal				
Video	Input: 4*	Output: 1	* Three input lines available	Phono jacks; 1 Vp-p, 75 ohms
♪ (Audio)	Input: 4*	Output: 1	* Three input lines available	Phono jacks; 500 mVrms
(S Video)	Input : 2			Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p, 75 ohms
(Component Video)	Input : 1			Phono jacks: Y: 1 Vp-p, 75 ohms sync negative C_B: 0.7 Vp-p, 75 ohms C_R: 0.7 Vp-p, 75 ohms Audio: 500mVrms
(Headphone)	Output: 1			Stereo minijack
Picture tube	29 in			
Tube size (cm)	72			measured diagonally
Screen size (cm)	68			measured diagonally
Dimension (w/h/d,mm)	765 × 578 × 502			
Mass (kg)	49			

Design and specifications are subject to change without notice.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SPECIFICATIONS
(KV-AR29N90)

				Note
Power requirements	110 V AC, 60Hz			
Power consumption (W)	Indicated on the rear of the TV			
Television system	M			
Color system	NTSC3.58, PAL*, PAL 60*, SECAM*, NTSC4.43*			*AV IN only
Stereo/Bilingual System	MTS			
Channel coverage	VHF: 2 to 13 UHF: 14 to 69 CATV: 1 to 125			
(Antenna)	75-ohm external terminal			
Audio output (Speaker)	8W + 8W			
Number of terminal				
Video	Input: 4*	Output: 1	* Three input lines available	Phono jacks; 1 Vp-p, 75 ohms
♪ (Audio)	Input: 4*	Output: 1	* Three input lines available	Phono jacks; 500 mVrms
(S Video)	Input : 2			Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p, 75 ohms
(Component Video (DVD) IN)	Input : 1			Phono jacks: Y: 1 Vp-p, 75 ohms sync negative C_B: 0.7 Vp-p, 75 ohms C_R: 0.7 Vp-p, 75 ohms Audio: 500mVrms
(Headphone)	Output: 1			Stereo minijack
Picture tube	29 in			
Tube size (mm)	724 mm			measured diagonally
Screen size (mm)	679 mm			measured diagonally
Dimension (w/h/d,mm)	765 × 578 × 502 mm			
Mass (kg)	49 kg			

Design and specifications are subject to change without notice.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

TABLE OF CONTENTS

Section *Title* *Page*

SELF DIAGNOSTIC FUNCTION 5

1. DISASSEMBLY
1-1. Rear Cover Removal 8
1-2. Speaker Removal 8
1-3. Chassis Assy Removal (KV-AR29M60/AR29N90) .. 8
1-4. Chassis Assy Removal (Except KV-AR29M60/AR29N90) 8
1-5. Service Position 8
1-6. F Board Removal (KV-AR29M60/AR29N90) 8
1-7. F Board Removal (Except KV-AR29M60/AR29N90) 9
1-8. Terminal Bracket and J Board Removal (KV-AR29M60/AR29N90) 9
1-9. Terminal Bracket and J Board Removal (Except KV-AR29M60/AR29N90) 9
1-10. B1 Board Removal 9
1-11. P5 and V1 Boards Removal 9
1-12. D3 Board Removal 9
1-13. H1 and H2 Boards Removal 10
1-14. A and B10 Boards Removal (KV-AR29M60/AR29N90) 10
1-15. A and B10 Boards Removal (Except KV-AR29M60/AR29N90) 10
1-16. Picture Tube Removal 11

2. ADVANCE OPERATION
2-1. "RESET" Function 12

3. SET-UP ADJUSTMENTS
3-1. Beam Landing 13
3-2. Convergence 14
3-3. Focus Adjustment 16
3-4. G2 (SCREEN) and White Balance Adjustment 17

4. CIRCUIT ADJUSTMENTS
4-1. Adjustment With Commander 18
4-2. Adjustment Method 18
4-3. Adjustment for Non Digital Texture Enchancer (DTE) Model 33
4-4. Adjustment for Digital Texture Enchancer (DTE) Model 33
4-5. Display Position Adjustment 34
4-6. Deflection Adjustment 34
4-7. Picture Distortion Adjustment 35

5. DIAGRAMS
5-1. Block Diagram 36
5-2. Circuit Boards Location 40
5-3. Schematic Diagram 41
(1) A Board Schematic Diagram 42
(2) B10 Board Schematic Diagram 46
(3) V1 Board Schematic Diagram 48
(4) C6 Board Schematic Diagram 50
(5) H1 Board Schematic Diagram 52
(6) B8 Board Schematic Diagram 54
(7) P5 Board Schematic Diagram 56
(8) J and F Boards Schematic Diagrams 64
(9) H2 Board Schematic Diagram 65
(10) B1 Board Schematic Diagram 66
(11) D3 Board Schematic Diagram 67
(12) VM1 Board Schematic Diagram 68
5-4. Voltage List and Waveforms 78
5-5. Printed Wiring Boards and Parts Location 87
5-6. Semiconductors 103

6. EXPLODED VIEWS
6-1. Speaker Bracket 105
6-2. Chassis 106
6-3. Picture Tube 108

7. ELECTRICAL PARTS LIST 110

OPERATING INSTRUCTIONS

SELF DIAGNOSTIC FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER lamp will automatically begin to flash.
The number of times the lamp flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER lamp flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

1. DIAGNOSTIC TEST INDICATORS

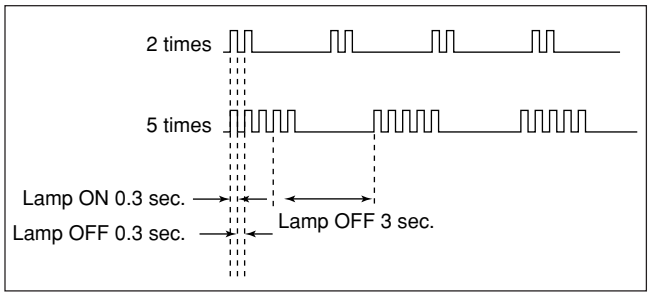
When an errors occurs, the STANDBY/TIMER lamp will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the lamp will identify the first of the problem areas.

Result for all of the following diagnostic items are displayed on screen. No error has occured if the screen displays a "0".

Diagnostic Item Description	No. of times STANDBY/TIMER lamp flashes	Self-diagnostic display/Diagnostic result	Probable Cause Location	Detected Symptoms
• Power does not turn on	Does not light	—	• Power cord is not plugged in. • Fuse is burned out F4601 (F)	• Power does not come on. • No power is supplied to the TV. • AC power supply is faulty.
• +B overcurrent (OCP) or overvoltage (OVP) • Vertical deflection stopped • Horizontal deflection overdrive	2 times	002:000 or 002:001~255 003:001~255 004:001~255 at the same time	• H.OUT Q511 is shorted. (A board) • Q701, Q702, Q703 is shorted (C6 board) • -13V is not supplied. (A board) • IC 503 faulty (A board)	• Power does not come on. • Load on power line is shorted. • Has entered standby state after horizontal raster. • Vertical deflection pulse is stopped. • Power line is shorted or power supply is stopped.
• White balance failure (no PICTURE)	5 times	005:000 or 005:001~225	• G2 is improperly adjusted. (Note 2) • CRT problem. • R(Q703), G(Q702) or B(Q701) out is faulty (C6 board) • IC301 is faulty. (A board) • No connection A board to C6 board.	• No raster is generated. • CRT cathode current detection reference pulse output is small.
• Micro reset	—	101:00 or 101:001~225	• Discharge CRT (C6 Board) • Static discharge • External noise	• Power is shut down shortly, after this return back to normal. • Detect Micro latch up.

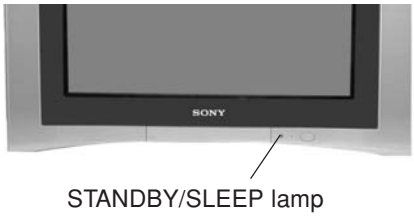
Note 1: If a + B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously.
The symptom that is diagnosed first by the microcontroller is displayed on the screen.
Note 2: Refer to screen (G2) Adjustment in section 3-4 of this manual.
* R(Q703), G(Q702) or B(Q701) out is faulty (C6 board).

2. DISPLAY OF STANDBY/TIMER LIGHT FLASH COUNT



Diagnostic Item	Flash Count*
+B overcurrent/overvoltage Vertical deflection stopped	2 times
White balance failure	5 times

* One flash count is not used for self-diagnostic.



STANDBY/SLEEP lamp

3. STOPPING THE STANDBY/TIMER FLASH

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER lamp from flashing.

4. SELF-DIAGNOSTIC SCREEN DIPLAY

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurances of failure for confirmation on the screen:

[To Bring Up Screen Test]

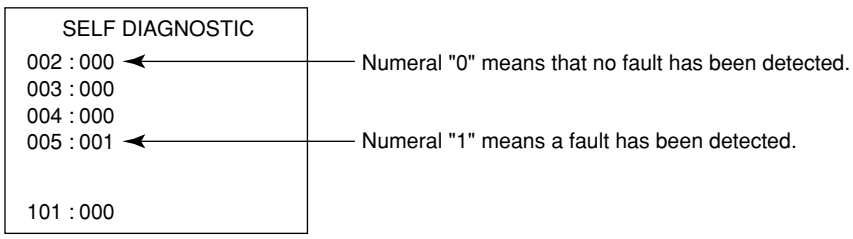
In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

[Screen display] ➡ channel [5] ➡ Sound volume [-] ➡ Power ON

⇧

Note that this differs from entering the service mode (mode volume [+]).

Self-Diagnosis screen display


SELF DIAGNOSTIC
002 : 000
003 : 000
004 : 000
005 : 001
101 : 000
Numeral "0" means that no fault has been detected.
Numeral "1" means a fault has been detected.

5. HANDLING OF SELF-DIAGNOSTIC SCREEN DISPLAY

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”.

Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

[Clearing the result display]

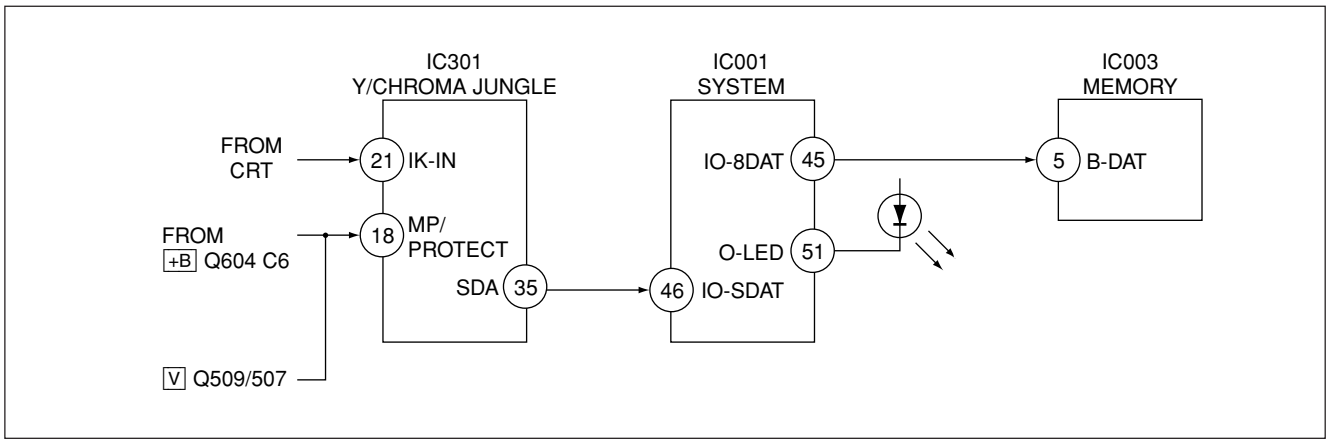
To clear the result display to “0”, press buttons on the remote commander sequentially as shown below when the diagnostic screen is being displayed.

Channel [8] ➡ 0

[Quitting Self-diagnostic screen]

To quit the entire self-diagnostic screen, turn off the power switch on the remote commander or the main unit.

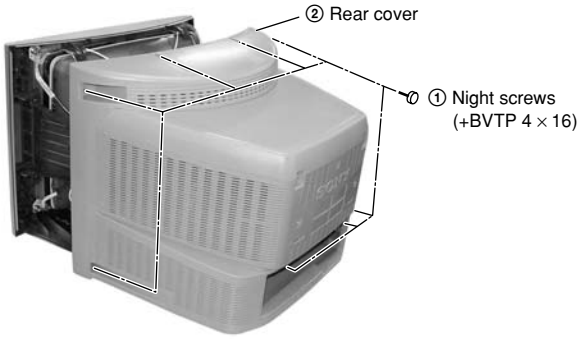
6. SELF-DIANOSTIC CIRCUIT



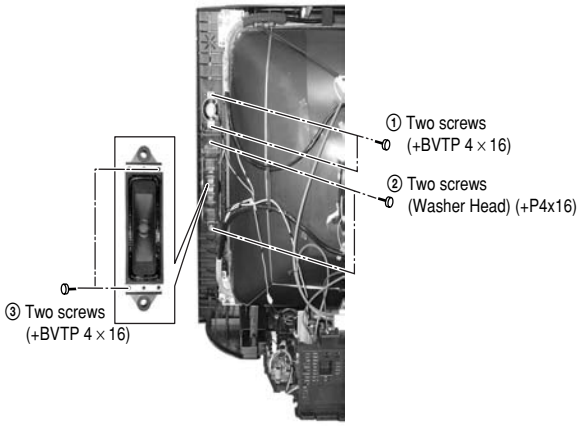
+B overcurrent OCP	Occurs when an overcurrent on the +B(135) line is detected by Q604. If Q604 go to ON and the voltage to pin 18 of IC301 should go down when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.
Vertical deflection stopped	Occurs when an absence of the vertical deflection pulse is detected by Q509 and IC001 shut down the power supply.
Vertical deflection overcurrent	Occurs when an overcurrent on V drive line is detected by Q507. Power supply will be shut down when detect this by IC001.
White balance failure	If the RGB levels* do not balance or become low level within 5 seconds, this error will be detected by IC301. TV will stay on, but there will be no picture. * (Refers to the RGB levels of the AKB detection Ref pulse that detects IK.)

SECTION 1
DISASSEMBLY

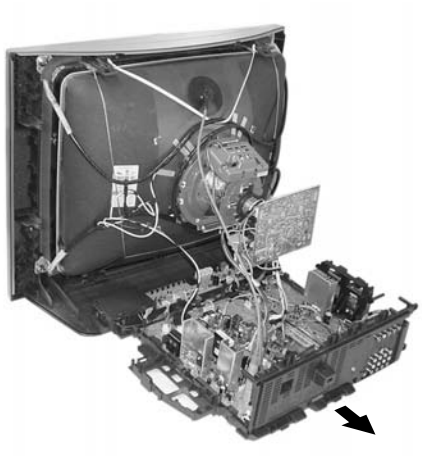
1-1. REAR COVER REMOVAL



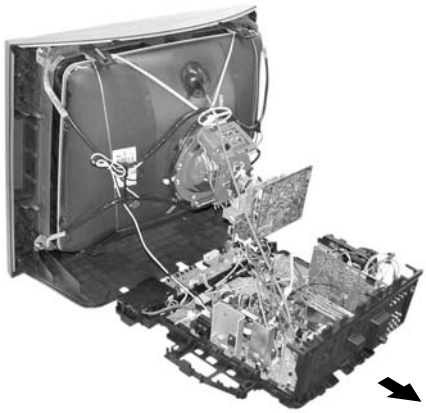
1-2. SPEAKER REMOVAL



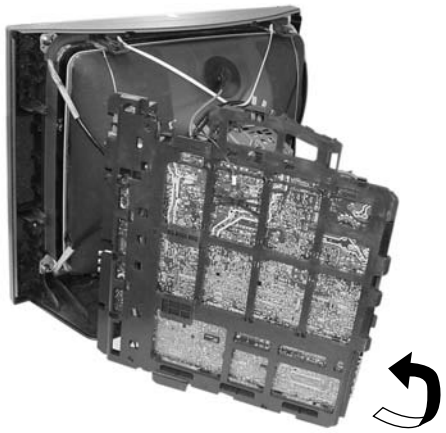
1-3. CHASSIS ASSY REMOVAL (KV-AR29M60/AR29N90)



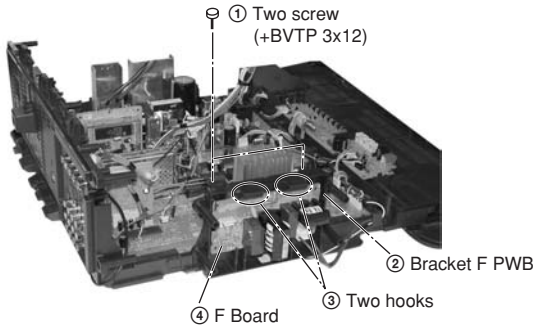
1-4. CHASSIS ASSY REMOVAL (EXCEPT KV-AR29M60/AR29N90)



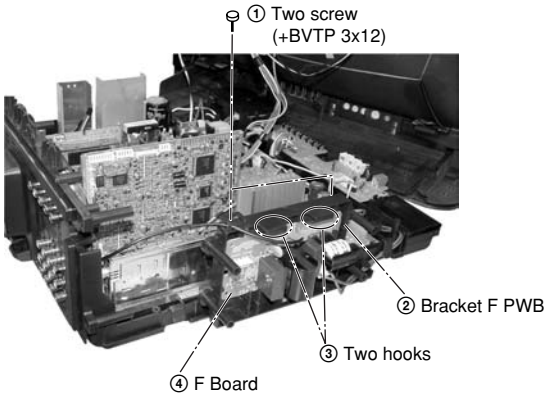
1-5. SERVICE POSITION



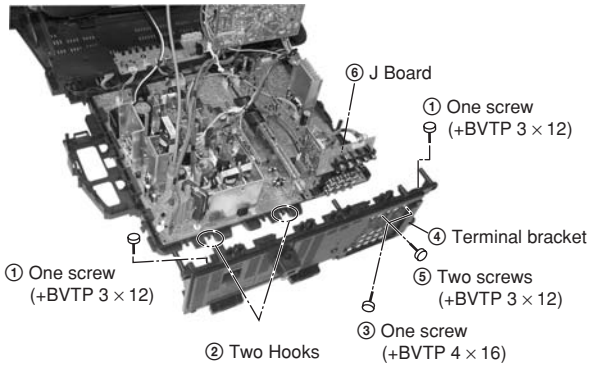
1-6. F BOARD REMOVAL (KV-AR29M60/AR29N90)



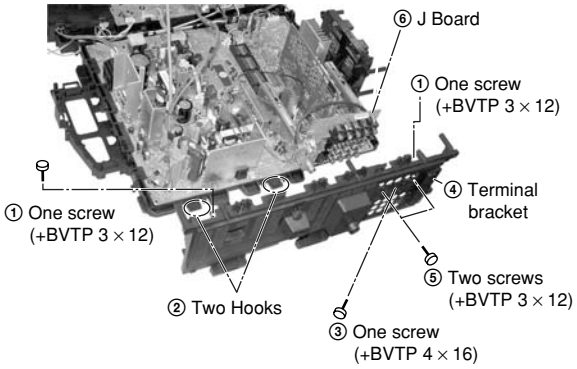
1-7. F BOARD REMOVAL (EXCEPT KV-AR29M60/AR29N90)



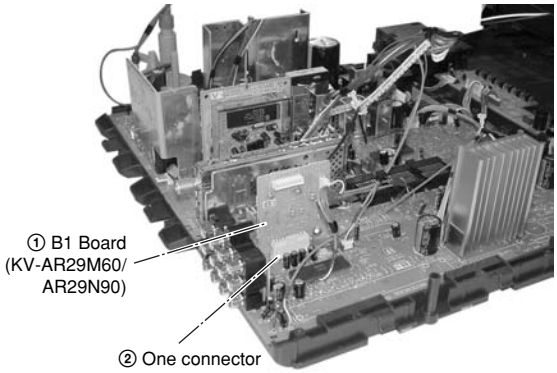
1-8. TERMINAL BRACKET AND J BOARD REMOVAL (KV-AR29M60/AR29N90)



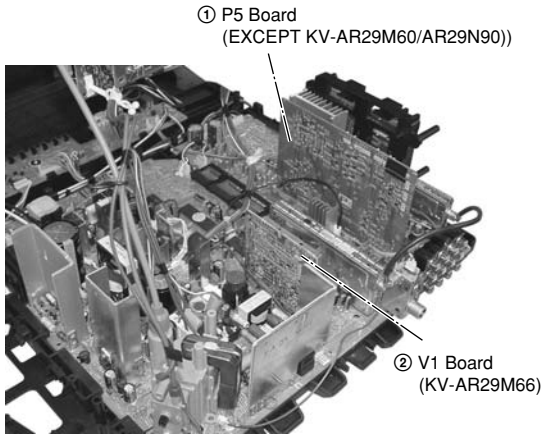
1-9. TERMINAL BRACKET AND J BOARD REMOVAL (EXCEPT KV-AR29M60/AR29N90)



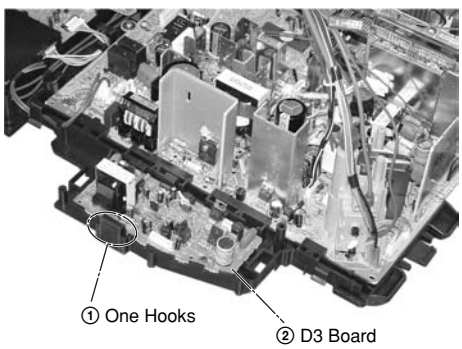
1-10. B1 BOARD REMOVAL



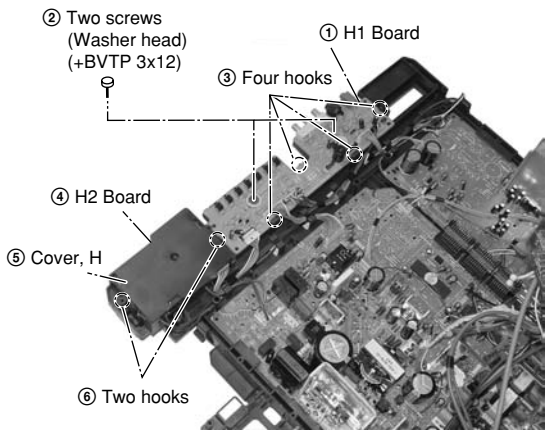
1-11. P5 AND V1 BOARDS REMOVAL



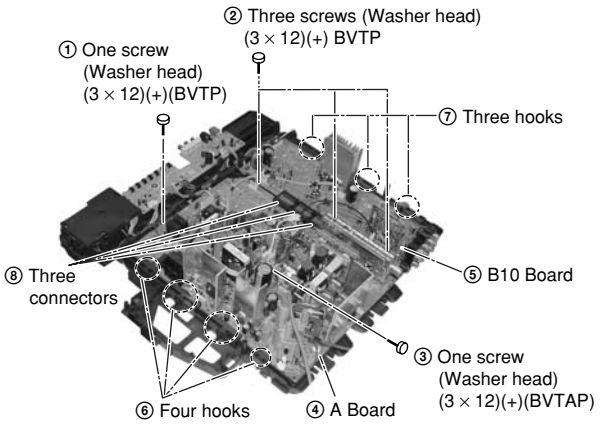
1-12. D3 BOARD REMOVAL



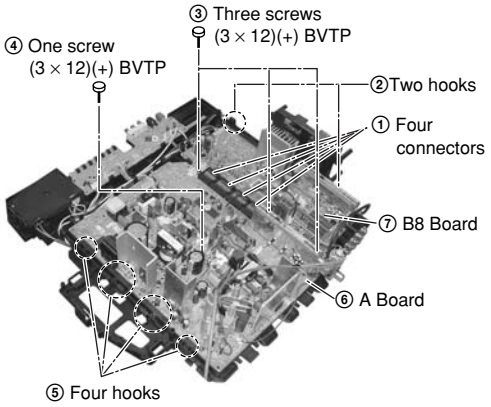
1-13. H1 AND H2 BOARDS REMOVAL



1-14. A AND B10 BOARDS REMOVAL (KV-AR29M60/AR29N90)



1-15. A AND B8 BOARDS REMOVAL (EXCEPT KV-AR29M60/AR29N90)

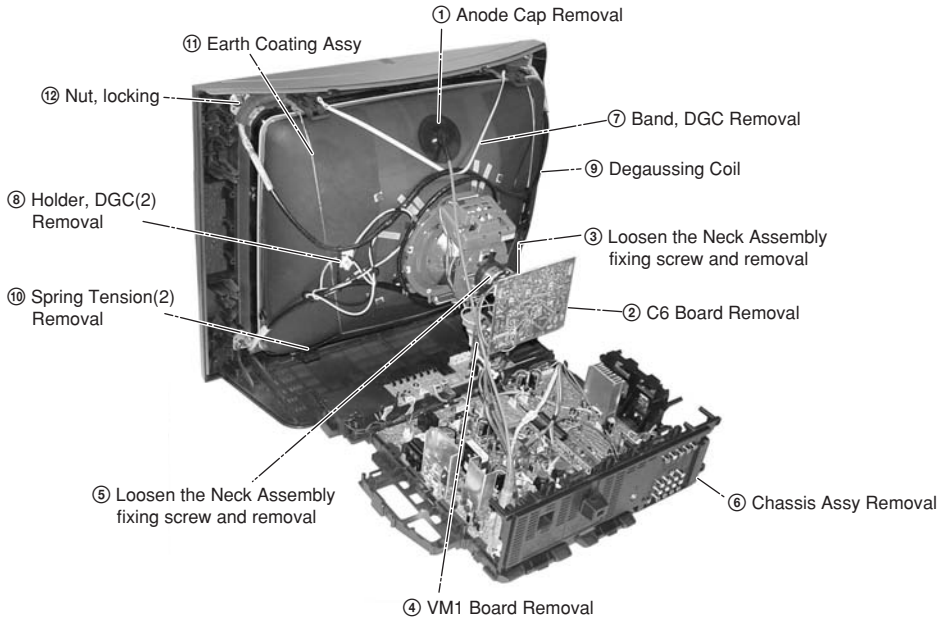


1-16. PICTURE TUBE REMOVAL

Note:

- Please make sure the TV set is not in standing position before removing necessary CRT support located on bottom right and left.

1) Place the TV set with the CRT face down on a cushion jig.
2) Removal the rear cover.

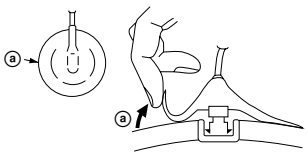

① Anode Cap Removal
⑪ Earth Coating Assy
⑫ Nut, locking
⑦ Band, DGC Removal
⑨ Degaussing Coil
⑧ Holder, DGC(2) Removal
③ Loosen the Neck Assembly fixing screw and removal
⑩ Spring Tension(2) Removal
② C6 Board Removal
⑤ Loosen the Neck Assembly fixing screw and removal
⑥ Chassis Assy Removal
④ VM1 Board Removal

• REMOVAL OF ANODE-CAP

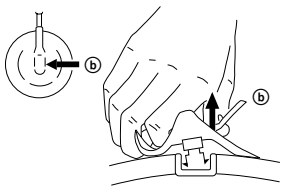
Note:

- After removing the anode, short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT.

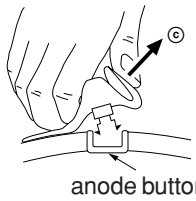
- **REMOVING PROCEDURES**



① **Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.**



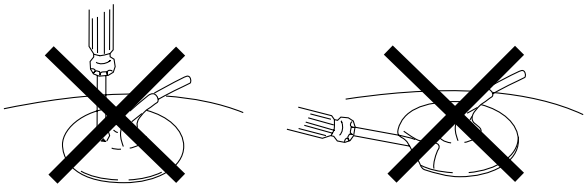
② **Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.**



③ **When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ.**

- **HOW TO HANDLE AN ANODE-CAP**

① **Do not damage the surface of anode-caps with sharp shaped objects.**
② **Do not press the rubber too hard so as not to damage the inside of anode-cap.**
A metal fitting called the shatter-hook terminal is built into the rubber.
③ **Do not turn the foot of rubber over too hard.**
The shatter-hook terminal will stick out or damage the rubber.



SECTION 2
ADVANCE OPERATION

2-1. "RESET" FUNCTION

1. Purpose

If a customer faces some setting problem that cannot be solved, using the "RESET" function some items will be reset to its original setting (shipment condition)

2. How to Operate

The way to access to the "RESET" Function:-

a) By pressing "MENU" button or "SELECT" button (for non-menu models) on the Front Key Input and hold it down for 5 seconds.

3. Subsequent of Operation

Sequential to the resetting operation (either methods being used in No. 2), TV set would shut down once and automatically turn on again. The power-off duration is expected to be about 500msec. An OSD message, "RESET" tentatively will be displayed for 10 sec after IK status gets stable.
As a result, some items will be reset to an initial condition (shipment condition) wheareas some other remains at the last selection by user.

Items that remains at the last selection by user

Channel No., Favourite CH Setup, PIC rotation, OSD Language, Fine tuning, TV System, Skip

Reset Items

Video input	RF	Antenna sensitivity	HIGH*
Volume	30	Stereo mode	STEREO
Picture mode	DYNAMIC	Bilingual mode	MAIN*
PICSI		High-deviation mode	AUTO
Sound mode	DYNAMIC	Child lock	OFF*
Surround mode	OFF	Wide mode	OFF
Favourite CH mode	AUTO	Game mode	OFF
Multi Picture (PIP)	OFF	Sleep timer	OFF
PIP position	Bottom Right	Wake-up timer	OFF
OSD recall	OFF	Sound muting	OFF
Antenna sensitivity	OFF		

*= only when in RF mode

SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows unless otherwise noted:
PICTURE control ..... normal
BRIGHTNESS control ..... normal

Perform the adjustments in the following order :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Pattern Generator
2. Degausser
3. Oscilloscope

Preparation :

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input a white signal with the pattern generator.
   Contrast } normal
   Brightness }
2. Position neck assy as shown in Fig3-2.
3. Set the pattern generator raster signal to a green raster.
4. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side. (See Figures 3-1 through 3-4.)
5. Move the deflection yoke forward and adjust so that the entire screen is green. (See Figure 3-2.)
6. Switch the raster signal to blue, then to red and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws and DY spacers.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Figure 3-5.)

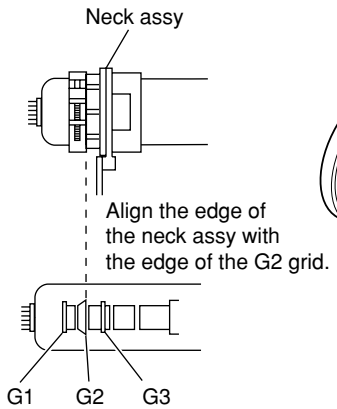


Fig. 3-1

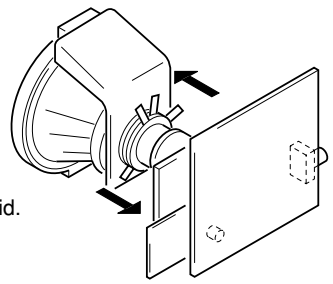


Fig. 3-2

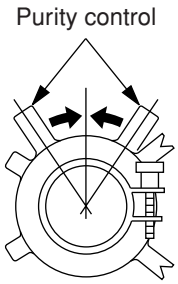


Fig. 3-3

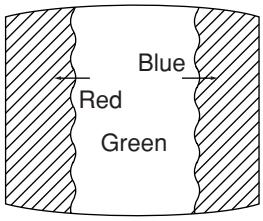


Fig. 3-4

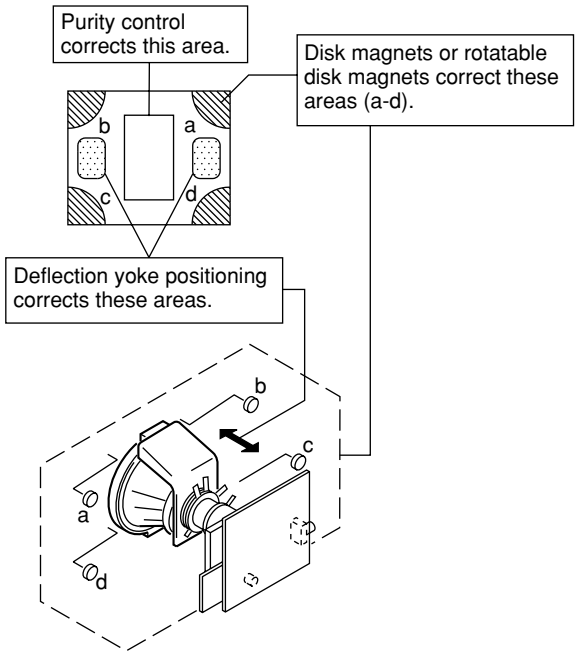


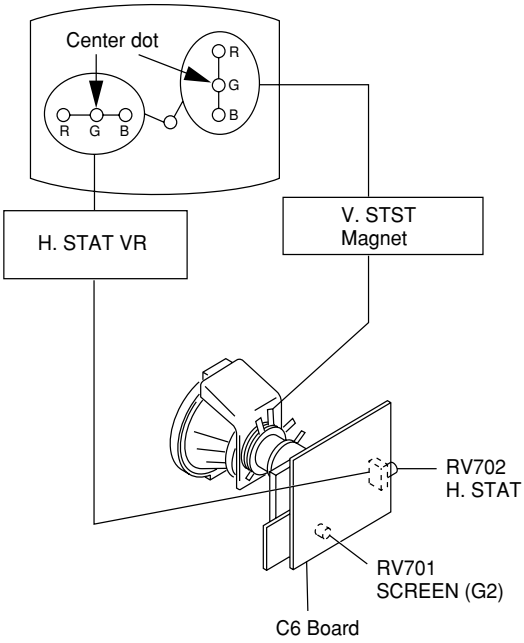
Fig. 3-5

3-2. CONVERGENCE

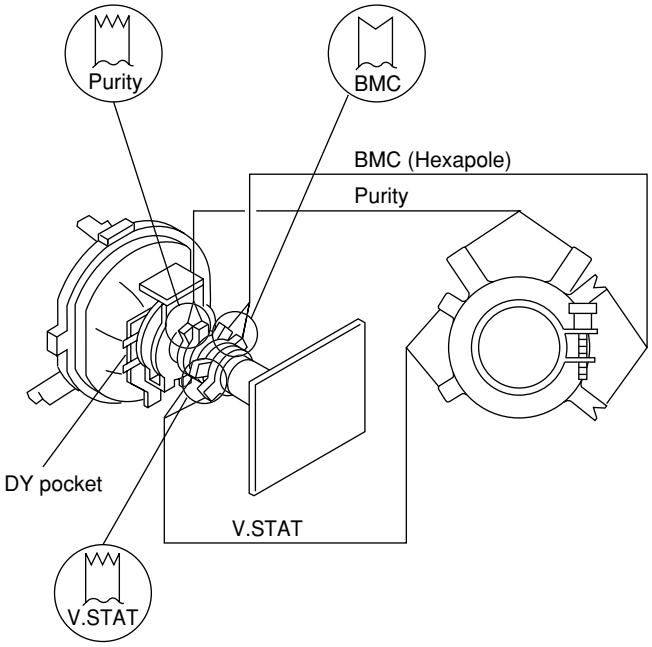
Preparation :

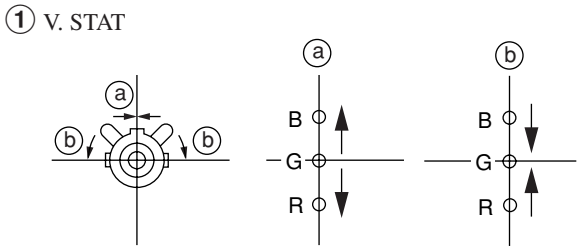
- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Receive dot/hatch signal.
- Pic mode: Personal (Pic 90%, Brightness 50%, Colour 50 %, Hue 50%, Sharpness 50%).

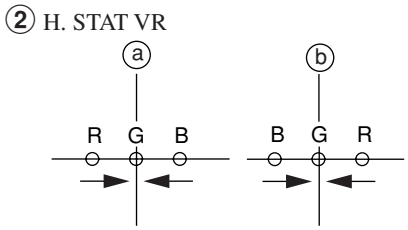
(1) Horizontal and Vertical Static Convergence

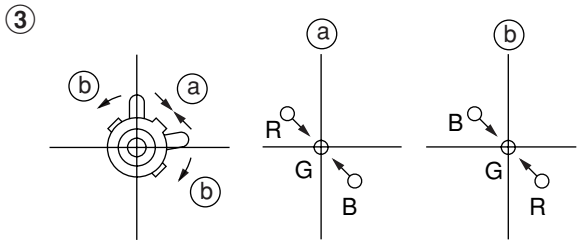


1. (Moving horizontally), adjust the H.STAT control so that the red, green and blue dots are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green and blue dots are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green and blue dots together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other, so be sure to perform adjustments while tracking.)



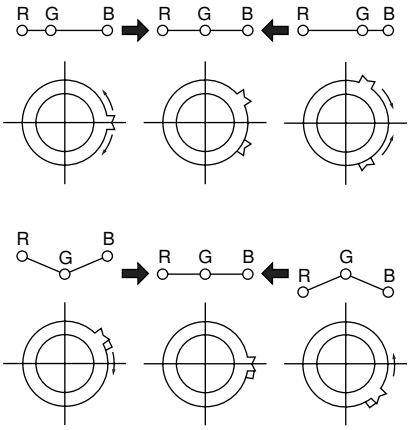






④ BMC (Hexapole) Magnet.

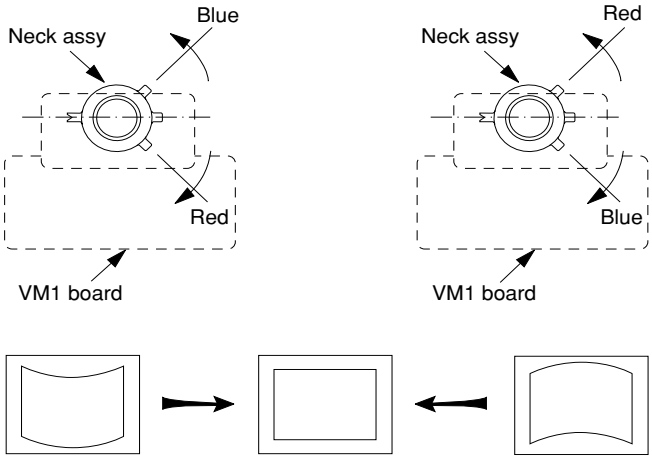
If the red, green and blue dots are not balanced or aligned, then use the BMC magnet to adjust in the manner described below.



⑤ Y separation axis correction magnet adjustment.

1. Receive the cross-hatch signal and adjust [PICTURE] to [MIN] and [BRIGHTNESS] to [STANDARD] .

2. Adjust the Y separation axis correction magnet on the neck assembly so that the horizontal lines at the top and bottom of the screen are straight.



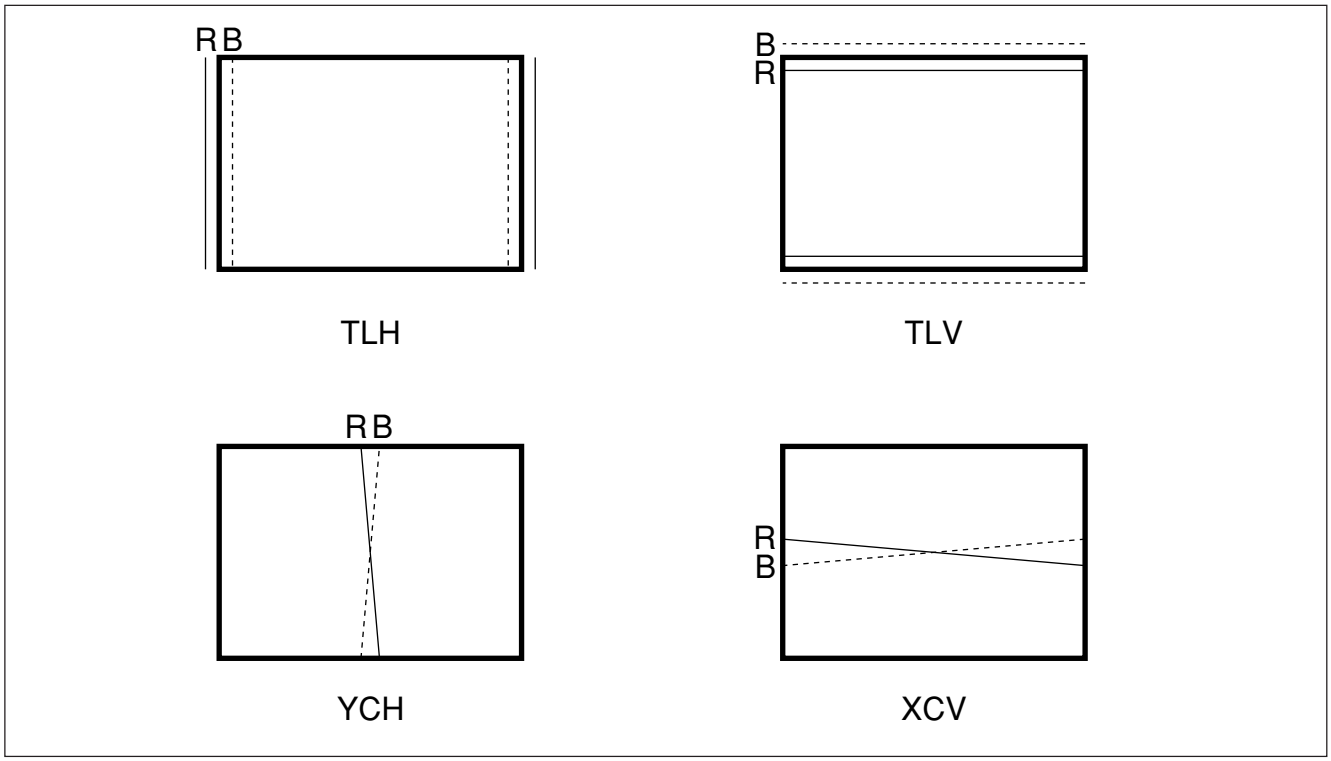
Note

1. The Red and Blue magnets should be equally far from the horizontal center line.
2. Do not separate the Red and Blue magnets too far. (Less than 8 mm)

(2) Dynamic Convergence Adjustment

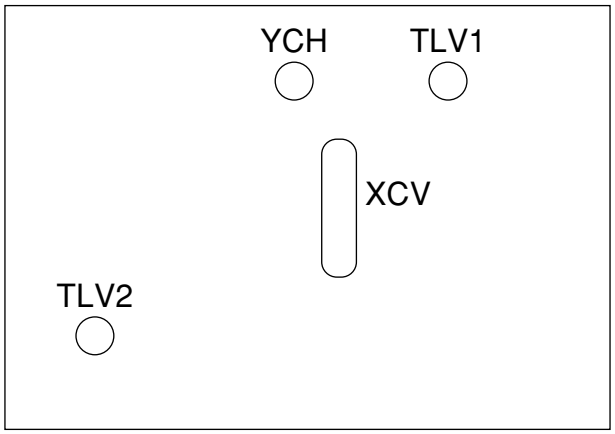
Preparation:

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence

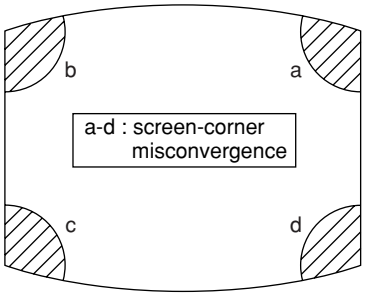


TLV	Rotate	TLV-2	VOL (29”, 34”) on DY
XCV	Rotate	XCV	Adj core on DY
YCH	Rotate	YCH	VOL on DY
TLH	Insert	TLH	Correction Plate to DY Pocket (Left or Right)

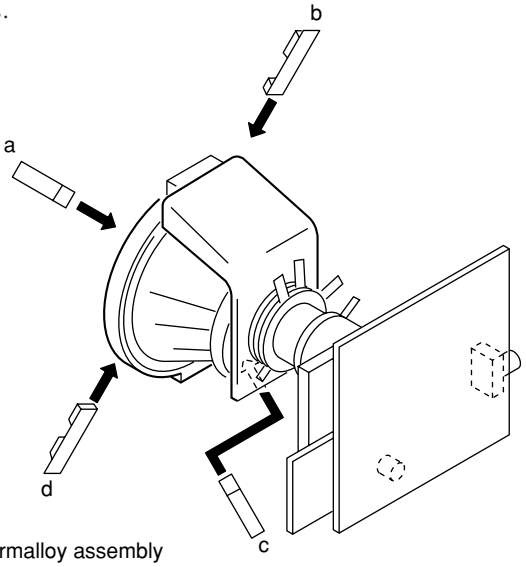
ON DY:



(3) Screen-corner Convergence

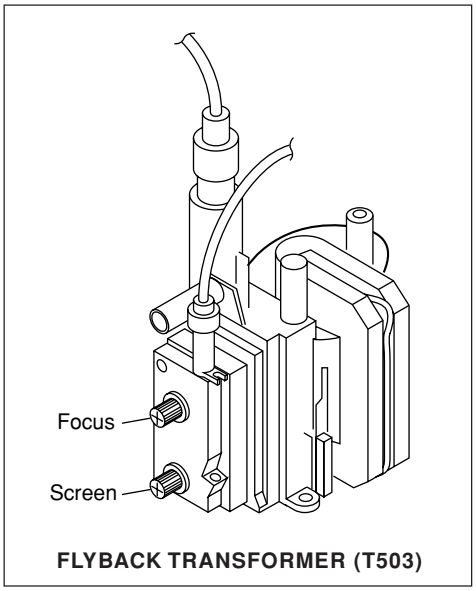


Fix a Permalloy assy corresponding to the misconverged areas.



3-3. FOCUS ADJUSTMENT

FOCUS adjustment should be completed before W/B adjustment.



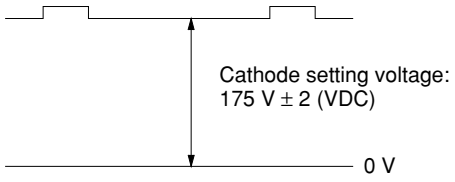
FLYBACK TRANSFORMER (T503)

1. Receive digital monoscope pattern.
2. Set "Picture Mode" to "Standard".
3. Set S2801 to mechanical center position.
4. Adjust focus VR so that the center of the screen becomes just focus.
5. Adjust S2801 when corner focus is unbalance is right and left.
6. Change the receiving signal to white pattern blue back.
7. Confirm Magenta ring is not noticable. Incase magneta ring is obvious, reset S2801 to mechanical center position and then adjust FOCUS VR to balance between MAGENTA RING and FOCUS.

3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT

1) Set the PICTURE to normal.
2) Put to VIDEO input mode without signals.
3) Connect R, G and B of the C6 board cathode to the oscilloscope.
4) Adjust BRIGHTNESS to obtain the cathode voltage to the value below.
5) Adjust G2 (screen) on the FBT until picture shows the point before cut off.

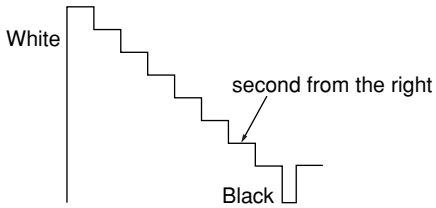


2. WHITE BALANCE ADJUSTMENT

1) Set to Service Mode (Refer Section 4-1: ADJUSTMENTS WITH COMMANDER).
2) Input white raster signal.
3) Set the PICTURE to minimum.
4) Select GCT (WHB 4) and BCT (WHB 5) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
5) Set the PICTURE to maximum.
6) Select GDR (WHB 1) and BDR (WHB 2) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
7) Write into the memory by pressing [MUTING] then [0].

3. SUB BRIGHT ADJUSTMENT

1) Set to service mode.
2) Input a staircase signal of black to white from the pattern generator.
3) BRIGHTNESS .... 50%.
   PICTURE ..... MINIMUM
4) Select SBR (WHB7) with [1] and [4], and adjust SBR (WHB7) level with [3] and [6] so that the second stripe from the right is dimly lit.



SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ADJUSTMENTS WITH COMMANDER

Service adjustments to this model can be performed using the supplied Remote Commander RM-993, RM-995 and RM-996.

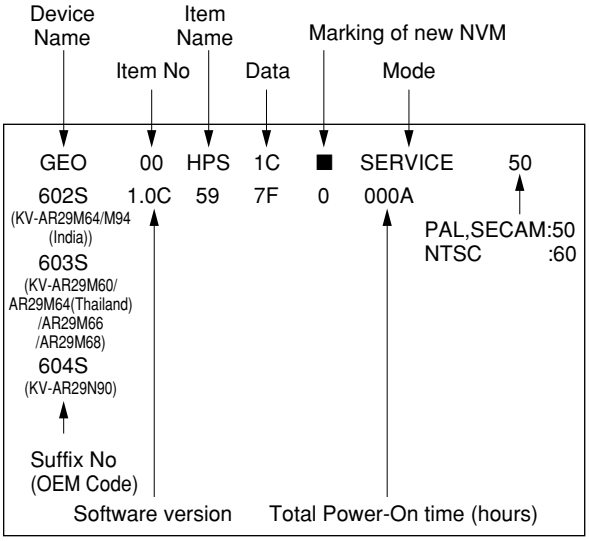
a. ENTERING SERVICE MODE

With the unit on standby

→ [DISPLAY] → [5] → [VOL (+)] → [POWER]

This operation sequence puts the unit into service mode.

The screen display is :



b. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press [POWER] button on the commander), then press [POWER] button again, hereupon it becomes TV mode.

c. METHOD OF WRITE INTO MEMORY

1) Set to Service Mode.
2) Press [1] (UP) and [4] (DOWN), to select the adjustment.
4) Press [MUTING] button to indicate WRITE on the screen.
5) Press [0] button to write into memory.

d. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and then plug into AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again to confirm adjustments were made.

[1], [4] ↓	Select the adjustment item.
[3], [6] ↓	Raise/lower the data value.
[MUTING] ↓	Writes.
[0]	Executes the writing.

[7], [0]	All the data becomes the values in memory.
[8], [0]	All user control goes to the standard state.
[5], [0]	Service data initialization (Be sure not to use usually.)
[MUTING] + [0]	Write 50Hz adjustment data to 60Hz, or vice versa.
[2], [0]	Copy and write all data.

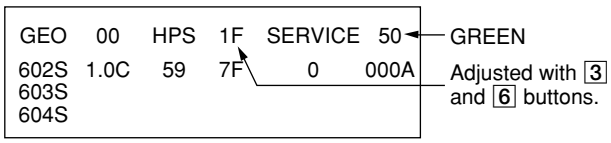
4-2. ADJUSTMENT METHOD

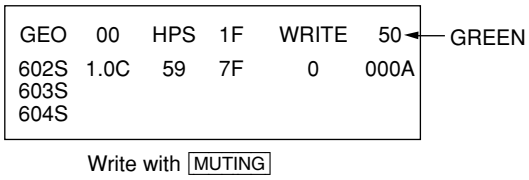
Item Number 00 of device GEO

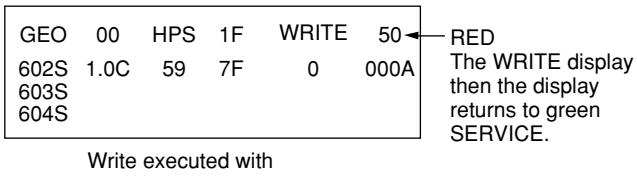
This explanation uses H-Position as an example.

1. Select "GEO 00 HPS" with the [1] and [4] buttons.
2. Raise/lower the data with the [3] and [6] buttons.
3. Select the optimum state. (The standard is 1F for PAL reception.)
4. Write with the [MUTING] button. (The display changes to WRITE.)
5. Execute the writing with the [0] button. (The WRITE display will be changed to red color while excuting, and back to SERVICE.)

Example on screen display :-






GEO 00 HPS 1F WRITE 50
602S 1.0C 59 7F 0 000A
603S
604S
RED
The WRITE display then the display returns to green SERVICE.
Write executed with

Use the same method for all Items. Use [1] and [4] to select the adjustment item, use [3] and [6] to adjust, write with [MUTING], then execute the write with [0].

Note : 1. In [WRITE], the data for all items are written into memory together.
2. For adjustment items that have different standard data between 50Hz or 60Hz, be sure to use the respective input signal after adjustment.

Adjustment Item Table (Except KV-AR29N90)

TVG	Functionality		No Dec	Initial	Range	Function	Table & Note	Register No. (Bit Range)	Device Name (Slave Address)	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name									Slave	Sub	Bit	Initial data for tables
GEO	00	HPS	0	1E	3F	H Position	NRO: Others{Normal(50/60)/Wide(50/60)}	14 (7-2)	CXA2159S(88H)	9E (7-2)	A6	(6B/6D)/(6F/71)	7-2	1E (for 60Hz)
	01	HSZ	1	25	3F	H Size	Normal(50/60)/Wide(50/60)	13 (7-2)		9D (7-2)	A0/A4	(A0/AD)/(43/4E)	7-2	typical
	02	PAP	2	1F	3F	Pin Amp	Normal(50/60)/Wide(50/60)	15 (7-2)		9F (7-2)	A0/A4	(A2/AF)/(45/50)	7-2	typical
	03	TLT	3	7	0F	Trapezium	Normal(50/60)/Wide(50/60)	17 (7-4)		A1 (7-4)	A0/A4	(A4/B1)/(47/52)	7-4	typical
	04	VPS	4	1F	3F	V Position	Normal(50/60)/Wide(50/60)	11 (7-2)		9B (7-2)	A0/A4	(9E/AB)/(41/4C)	7-2	typical
	05	VSZ	5	1F	3F	V size	Normal(50/60)/Wide(50/60)	10 (7-2)		9A (7-2)	A0/A4	(9D/AA)/(40/4B)	7-2	typical
	06	SCO	6	7	0F	S Correction	Normal(50/60)/Wide(50/60)	12 (7-4)		9C (7-4)	A0/A4	(9F/AC)/(42/4D)	7-4	typical
	07	VLN	7	7	0F	V Linearity	Normal(50/60)/Wide(50/60)	12 (3-0)		9C (3-0)	A0/A4	(9F/AC)/(42/4D)	3-0	typical
	08	BOW	8	7	0F	AFC Bow	Normal(50/60)/Wide(50/60)	18 (7-4)		A2 (7-4)	A0/A4	(A5/B2)/(48/53)	7-4	typical
	09	AGL	9	7	0F	AFC Angle	Normal(50/60)/Wide(50/60)	18 (3-0)		A2 (3-0)	A0/A4	(A5/B2)/(48/53)	3-0	typical
	0A	UPN	10	1F	3F	Upper Pin	Normal(50/60)/Wide(50/60)	16 (7-2)		A0 (7-2)	A0/A4	(A3/B0)/(46/51)	7-2	typical
	0B	LPN	11	1F	3F	Lower Pin	Normal(50/60)/Wide(50/60)	1A (7-2)		A4 (7-2)	A0/A4	(A7/B4)/(4A/55)	7-2	typical
	0C	HBL	12	1	1	H Blanking on/off	NRO:Others	1A (1)		74 (1)	A6	73	1	typical
	0D	LBL	13	0B	0F	Left H Blanking	NRO:Others{Normal(50/60)/Wide(50/60)}	19 (7-4)		A3 (7-4)	A6	(6C/6E)/(70/72)	7-4	0F (for 60Hz)
	0E	RBL	14	2	0F	Right H Blanking	NRO:Others{Normal(50/60)/Wide(50/60)}	19 (3-0)		A3 (3-0)	A6	(6C/6E)/(70/72).	3-0	typical
WHB	00	RDR	0	25	3F	R Drive	DYNAMIC/others	0B (7-2)	CXA2159S(88H)	37E (7-2)	A0	C0/BA	7-2	2A (for non-DYNAMIC)
	01	GDR	1	25	3F	G Drive	DYNAMIC/others	0C (7-2)		37F (7-2)	A0	C1/BB	7-2	typical
	02	BDR	2	25	3F	B Drive	DYNAMIC/others	0D (7-2)		380 (7-2)	A0	C2/BC	7-2	typical
	03	RCT	3	7	0F	R Cutoff	SECAM/others	09 (3-0)		382 (3-0)	A0	C3/BD	3-0	typical
	04	GCT	4	7	0F	G Cutoff	SECAM/others	0A (7-4)		383 (7-2)	A0	C4/BE	7-4	typical
	05	BCT	5	7	0F	B Cutoff	SECAM/others	0A (3-0)		383 (3-0)	A0	C4/BE	3-0	typical
	06	BMN	6	15	1F	Brightness Minimum Data		08 (7-2)		106 (6-2)	A0	22	6-2	-
	07	SBR	7	25	3F	Sub Brightness Control		08 (7-2)		107 (7-2)	A0	23	7-2	-
	08	APB	8	0	3	Sub Bright Control Switch for Intelligent Picture #3		08 (7-2)		107 (1-0)	A0	23	1-0	-
SAJ	00	PMX	0	38	3F	Picture Maximum Data	non-Wide/Wide	05 (7-2)	CXA2159S(88H)	105 (7-2)	A0	21/20	7-2	typical
	01	SHU	1	7	0F	Sub Hue Control	TV/Video	07 (7-2)		108 (5-2)	A0	24/38	5-2	typical
	02	SSH	2	5	0F	Sub Sharpness Control	TV/Video	09 (7-4)		109 (7-2)	A0	25/36	7-4	09 (for VIDEO)
	03	SCL	3	1F	3F	Sub Color Control	(NTSC/others)/WIDE(NTSC/others)	06 (7-2)		10A (7-2)	A0	(37/26)/(3C/3B)	7-2	typical

TVG	Functionality		No. Dec	Initial	Range	Function	Table & Note	Register No. (Bit Range)	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name									Slave	Sub	Bit	Initial data for tables
VP	00	EHT	0	5	0F	EHT Comp	NORMAL (50/60)/WIDE (50/60)	17 (3-0)	CXA2159S(88H)	A1 (3-0)	A0[/A4]	A4/B1[/(47/52)]	3-0	typical
	01	GMA	1	2	3	Gamma Correction (sepatated in STANDARD mode)	NON-STD(NTSC/others)/STD(NTSC/others)	0D (1-0)		367 (1-0)	A4	68/67/6A/69	1-0	typical
	02	APG	2	0	1	Gamma Control Switch for Intelligent Picture #3	NON-STD(NTSC/others)/STD(NTSC/others)	0D (1-0)		367 (2)	A4	68/67/6A/69	2	-
	03	YDL	3	6	0F	Y Delay	PAL/SECAM/NTSC/DVD	0E (3-0)		36C (3-0)	A4	3C/3E/3D/3F	3-0	(09/08/08 for SECAM/NTSC/DVD)
	04	SST	4	1	3	SECAM ID Start Position	SECAM&ATUTO/FORCED-PAL&NTSC	03 (5-4)		369 (5-4)	A4	6B/6D	5-4	(00 for forced PAL/NTSC)
	05	SSP	5	1	3	SECAM ID Stop Position	SECAM&ATUTO/FORCED-PAL&NTSC	03 (7-6)		369 (7-6)	A4	6B/6D	7-6	(03 for forced PAL/NTSC)
	06	RLM	6	0	3	RGB Limit		03 (1-0)		5D (1-0)	A0	83	1-0	typical
	07	SLV	7	2	O3	SECAM ID Level	SECAM&ATUTO/FORCED-PAL&NTSC	04 (1-0)		36A (1-0)	A4	6C/6E	1-0	(02 for forced PAL/NTSC)
	08	SBF	8	22	3F	SECAM BELL fO	SECAM&ATUTO/FORCED-PAL&NTSC	04 (7-2)		36A (7-2)	A4	6C/6E	7-2	(22 for forced PAL/NTSC)
	09	DYC	9	1	1	Dynamic Color on/off		0C (1)		66 (1)	A0	8C	1	-
	0A	ABL	10	1	1	ABL Mode Switching (except STANDARD mode)	except STANDARD	0B (1)		65 (1)	A0	8B	1	(00 for STANDARD)
	0B	VTH	11	1	1	ABL Detection Vth Switching		0B (0)		65 (0)	A0	8B	0	-
	0C	SF0	12	1	1	FO Switching for Sharpness	NTSC/others	07 (1)		35A (1)	A4	5C/59	1	typical
	0D	DCX	13	1	1	DC Trans. Ratio Switching		08 (1)		62 (1)	A0	88	1	-
	0E	SHT	14	1	1	Pre-/Overshoot ratio Switch	NTSC/others	08 (0)		35B (0)	A4	5D/5A	0	typical
	0F	HDW	15	0	1	H Drive Pulse Width Switch		00 (6)		5A (6)	A0	80	6	-
	10	AFC	16	1	O3	AFC Gain Control	TV/Video/Text	11 (1-0)		A7 (1-0)	A0	28/29/2A	1-0	(00/01 dor VIDEO/TEXT)
	11	HOS	17	7	0F	H Oscillation		0E (7-4)		68 (7-4)	A0	8E	7-4	-
	12	HSS	18	0	1	Slice Level of H Sync Sep.		0F (1)		69 (1)	A0	8F	1	-
	13	VSS	19	0	1	Slice Level of V Sync Sep.		0F (0)		69 (0)	A0	8F	0	-
	14	HMS	20	1	1	Macro Vision C/m off/on	NORMAL (50/60)/WIDE (50/60)	10 (0)		9A (0)	A0[/A4]	9D/AA[/(40/4B)]	0	typical
	15	YUV	21	0	1	Y SEL		00 (2)		5A (2)	A0	80	2	-
	16	CDV	22	1	3	CD mode for video and RF under no signal	video only	0F (5-4)		365 (5-4)	A0	2B	5-4	-
	17	RON	23	1	1	R ON	not memorized	01 (2)		5B (2)	A0	81	2	not memorised
	18	GON	24	1	1	G ON	not memorized	01 (1)		5B (1)	A0	81	1	not memorised
	19	BON	25	1	1	B ON	not memorized	01 (0)		5B (0)	A0	81	0	not memorised
	1A	PON	26	1	1	P ON	not memorized	00 (7)		5A (7)	A0	80	7	not memorised
	1B	AXN	27	1	1	AXIS SW	(NTSC/others)/Wide (NTSC/others)[only for DYNA]	07 (0)		10A (0)	A0	37/26[/(3C/3B)]	0	-
	1C	RSL	28	0	1	RGB SEL		0C (0)		66 (0)	A0	8C	0	-
	1D	VBW	29	0	3	VBLKW		16 (1-0)		70 (1-0)	A0	96	1-0	-
	1E	RFP	30	0	1	REFP		14 (0)		6E (0)	A0	94	0	-
	1F	VMC	31	0	3	VM Level		03 (3-2)		6D (3-2)	A0	83	3-2	-
	20	CBF	32	0	1	Chroma Bandpass Filter								
	21	CTO	33	0	1	Chroma Trap Off								

TVG	Functionality		No. Dec	Initial	Range	Function	Table & Note	Register No. (Bit Range)	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name									Slave	Sub	Bit	Initial data for tables
AP2	00	BBS	0	3	0F	Bass Boost Level Setting					A0	44	7-4	
	01	BCB	1	0	1	Boost cut select for Sub Bass Control					A0	45	2	
	02	SBS	2	0	3	Sub Bass Level Setting					A0	45	1-0	
	03	BCT	3	0	1	Boost cut select for Sub Treble Control					A0	46	2	
	04	STS	4	0	3	Sub Treble Level Setting					A0	46	1-0	
	05	AGL	5	0	3	AGC Level Setting					A0	48	3-2	
	06	BSW	6	0	1	Bass Boost ON/OFF Switch					A0	44	3	
	07	BAS	7	0	1F	Bass sound mode control	{BSW:1/10} dyna/drama/soft				A6	{7E/81/84}{75/78/7B}	4-0	
	08	TRE	8	0	1F	Treble sound mode control	{BSW:1/10} dyna/drama/soft				A6	{7F/82/85}{76/79/7C}	4-0	
	09	BBE	9	0	FF	BBE Sound mode Control	{BSW:1/10} dyna/ drama/soft				A6	{80/83/86}{77/7A/7D}	7-0	
MSP	00	WST	0	15	FF	W/G Stereo Threshold			MSP3415D(84H)	165	A0	60	7-0	-
	01	WBT	1	EC	FF	W/G Bilingual Threshold				166	A0	61	7-0	-
	02	WLL	2	5	FF	W/G Monaural Threshold				167	A0	62	7-0	-
	03	WAC	3	1	0F	W/G Agreement Count				168(3-0)	A0	63	3-0	-
	04	WDL	4	30	FF	W/G Search Delay				169	A0	64	7-0	-
	05	NDL	5	20	FF	NICAM Search Delay				16A	A0	65	7-0	-
	06	SDL	6	10	FF	Stereo status Read Delay				16B	A0	66	7-0	-
	07	AGC	7	1	1	AGC Switch Auto/Constant		00BB(7)		116(7)	A0	68	7	-
	08	REL	8	28	3F	AGC Gain at Constant Mode		00BB(6-1)		116(6-1)	A0	68	6-1	-
	09	CRM	9	0	1	Carrier muting on/off		00BB(9)		115(9)	A0	67	1	-
	0A	ACO	10	1	1	Audio Clock out on/off		0083(5)		11A(5)	A0	69	5	-
	0B	FP	11	1B	7F	FM Prescale for non-M system		000E(14-8)		32F	A0	6A	6-0	-
	0C	FPM	12	32	7F	FM Prescale for M system		000E(14-8)		330	A0	6B	6-0	-
	0D	FH	13	36	7F	FM Prescale for HDEV		000E(14-8)		331	A0	6C	6-0	-
	0E	FHM	14	65	7F	FM Prescale for HDEV and M		000E(14-8)		332	A0	6D	6-0	-
	0F	WGP	15	1C	7F	W/G Prescale		000E(14-8)		333	A0	6E	6-0	-
	10	NIP	16	7F	7F	NICAM Prescale		0010(14-8)		147	A0	6F	6-0	-
	11	ERR	17	50	FF	Auto FM switch Threshold		0021(10-3)		174	A0	70	7-0	-
	12	VOL	18	6D	FF	Loud Speaker gain 700h to 7ff0h		0000(15-4)		360	A4	62	7-0	-

TVG	Functionality		No. Dec	Initial	Range	Function	Table & Note	Register No. (Bit Range)	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name									Slave	Sub	Bit	Initial data for tables
PIP	00	PRO	0	0	1	Progreeive Scan Mode Enable			SDA9288X(D6H)	192 (6-3)	A4	1C	6-3	
	01	RED	1	0	1	Read Double Mode								
	02	FEI	2	0	3	Field Select								
	03	HPS	3	35	FF	Horizontal Picture Position								
	04	VPS	4	1B	FF	Vertical Picture Position								
	05	HFP	5	0	0F	Horizontal Fine Positioning								
	06	VFP	6	0	0F	Vertical Fine Positioning								
	07	DIS	7	0	3	Display standard								
	08	HOS	8	0	3	Horizontal Size								
	09	VES	9	0	3	Vertical Size								
	0A	FPS	10	0	3	Force Parent Standard								
	0B	HZM	11	0	7	Horizontal Zoom								
	0C	VSP	12	0	1	Vertical Sync Pule Noise Reduction								
	0D	VDL	13	0	1F	Vertical Sync Pulse Delay								
	0E	FRH	14	5	7	Frame Width Horizontal								
	0F	FWV	15	2	3	Frame Width Vertical								
	10	VRD	16	0	1	Reduction								
	11	VBK	17	0	1	Vertical Blanking								
	12	DLY	18	0	F	Select Delay								
	13	PCR	19	0	1	Position Correction								
	14	AGM	20	3	3	AGC Mode								
	15	AGC	21	6	F	Automatic Gain Control Value								
	16	CVB	22	0	3	CVBS Select								
	17	CPD	23	1	3	CLAMPING Duration								
	18	CPT	24	1	3	CLAMPING Pulse start								
	19	LUM	25	0	3	Luminance offset								
	1A	PLL	26	0	3	Insert PLL Time Constant	TV/Video							
	1B	YCD	27	2	F	Y/C Delay	PAL/SECAM/NTSC/DVD							
	1C	NSR	28	0	3	Noise Reduction for insert Pll	TV/VIDEO							
	1D	LSP	29	0	1	Standard Identification Speed								
	1E	KIL	30	0	3	Color Killer Treshold								
	1F	BGP	31	0	1	Burst Gate Position								
	20	SEC	32	0	1	SECAM Identification level								
	21	DEM	33	1	3	Deemphasw selection								
	22	CMA	34	0	3	Chroma Bandwith								
	23	IFC	35	2	3	IF Compensation Filter								
	24	HUE	36	0	1F	Hue								
	25	SCA	37	7	1F	Color Subcarrier Adjustment								
	26	CON	38	0	F	Contrast Adjustment								
	27	BLR	39	0	F	Blanking Level Red Channel								
	28	BRT	40	0	F	Brightness Adjustment								
	29	BLG	41	0	F	Blanking Level Green Channel								
	2A	BIR	42	0	1	Blanking Inversion Red Channel								
	2B	BIB	43	0	1	Blanking Inversion Blue Channel								
	2C	BLB	44	0	F	Blanking level blue channel								
	2D	INT	45	0	1	Refresh Interval								
	2E	PKR	46	4F	FF	Peak Level Red Channel								
	2F	PKG	47	4F	FF	Peak Level Green Channel								
	30	PKB	48	4F	FF	Peak Level Blue Channel								
	31	FRY	49	A	F	Frame Color Y								
	32	OUT	50	1	1	Output Format								
	33	FRU	51	0	F	Frame Color U								
	34	FRV	52	0	F	Frame Color V								
	35	SAT	53	7	F	Color Separation Adjustment								
	36	YPK	54	7	7	Y Peak Adjustment								
	37	YCO	55	0	F	Y Coring Enable								
	38	PAL	56	3	3	PAL ID level								
	39	POV	57	0	7	Position Offset Vertical								
	3A	POH	58	0	1F	Position Offset Horizontal								
	3B	VSH	59	0	1F	Vertical Shrink				1A1	A4	29	7-0	-
	3C	HSH	60	0	1F	H Shrink				1A2	A4	2A	7-0	-
	3D	CPL	61	1	3	CLAMPING Pulse Length				195 (2-0)	A4	1F	2-0	-

TVG	Functionality		No. Dec	Initial	Range	Function	Table & Note	Register No. (Bit Range)	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name									Slave	Sub	Bit	Initial data for tables
YCT	00	SHU	0	0F	1F	Sub Hue Adjustment	TV/Video		CXA2163AQ(8AH)					
	01	PNG	1	1	1	PAL/NTSC Gate Width								
	02	PNI	2	0	1	PAL/NTSC Sensitivity SW								
	03	SCL	3	7	0F	Sub Color Control	50/60*TV/Video							
	04	SCT	4	8	0F	Sub Contrast Control	50/60*TV/Video							
	05	SF0	5	2	3	Sharpness Center Frequency Changing								
	06	SEQ	6	3	3	Sharpness Equalizer Characteristic								
	07	SHG	7	5	0F	Sharpness Gain Control	50/60*TV/Video/DVD							
	08	YOL	8	1F	3F	Y-Output Level Control								
	09	BSP	9	0	3	Black Stretch Start Point Changing								
	0A	COL	10	1F	3F	Cb/Cr Output Level Control	DVD/others							
	0B	DCR	11	0	3	DC Restoration Ratio Adjustment								
	0C	BF0	12	1	3	BPF/TQF F0 Adjustment								
	0D	BFQ	13	2	3	BPF/TQF Q Adjustment								
	0E	FSW	14	1	1	BPF/TQF Switch								
	0F	SDT	15	1	1	SECAM Double Trap Switch								
	10	LPF	16	1	1	Y/Cb/Cr LPF Switch								
	11	YDL	17	6	0F	Y-DL Time Adjustment	TV/Video/S-input/DVD							
	12	CMT	18	0	1	Cb/Cr Output Mute Switch								
	13	B01	19	7	0F	Cb Offset Adjustment (main route)								
	14	RO1	20	7	0F	Cr Offset Adjustment								
	15	CDF	21	0	7	V Count Down Frequency Switch	forced 50Hz for no signal							
	16	CDM	22	0	3	V Count Down Judge Switch								
	17	AFC	23	0	3	AFC Sensitivity Switch	(TV/)Video/DVD							
	18	MVM	24	1	1	Macrovision Mask + AFC Mask								
	19	SRY	25	7	0F	SECAM R-Y Black Adjustment								
	1A	SBY	26	1	0F	SECAM B-Y Black Adjustment								
	1B	BEL	27	2	3	SECAM BELL/HPF Switching								
	1C	BLF	28	0	1	BELL f0 Adjustment								
	1D	SVI	29	0	1	SECAM V-ID Switch								
	1E	SGP	30	0	3	SECAM Gate Position Adjustment								
	1F	SID	31	1	1	SECAM Sensitivity Switch	except SECAM							
	20	SIH	32	0	1	SECAM Inhibition Switch								
	21	STP	33	0	1	Y Black Level Setup for PAL plus								
	22	ASW	34	1	1	Auto Video select mode SW								
	23	WSH	35	0	3	Sharpness Gain Step for noise reduction								
	24	WCO	36	0	3	Cb/Cr Output Level Step for noise reduction								
	25	CB2	37	7	0F	Cb2 offset adjustment (YCbCr2 input)								
	26	CR2	38	7	0F	Cr2 offset adjustment (YCbCr2 input)								
	27	HPH	39	0	1	HS Output phase switch								
	28	VPH	40	0	1	Switch for VP output phase								
	29	NCM	41	0	1	NTSC COMB								

TVG	Functionality		No. Dec	Initial	Range	Function	Table & Note	Register No. (Bit Range)	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name									Slave	Sub	Bit	Initial data for tables
TE	00	NR0	0	01	07	NR	NTSC/Others		CXA2163AQ(8AH)					
	01	TC0	1	04	0F	TE Coring	NTSC/Others							
	02	TG0	2	05	07	TE Gain	NTSC/Others							
	03	STH	3	00	01	Forced TE bypass 1:TE bypass								
	04	COF	4	00	01	Color Component OFF 1:OFF(512)								
	05	YOF	5	00	01	Luminance Component OFF 1:OFF								
	06	VJR	6	00	03	V jitter control 0:ON 1:SP1 2:SP2 3:SP2								
	07	TOF	7	00	01	TE OFF 1: TE OFF								
	08	DOF	8	00	01	Dot NR OFF 1:Dot NR OFF								
	09	FOF	9	01	01	TE LPF OFF 1:LPF OFF								
	0A	CTH	10	00	01	Color TE OFF 1:OFF								
	0B	PSL	11	02	03	TE Parameter Selection								
	0C	CLP	12	08	0F	Input Clamp Level								
	0D	CL2	13	08	0F	Output Clamp Level								
	0E	LA1	14	00	0F	Level depend Gain (+, White)								
	0F	LA2	15	01	0F	Level depend Gain (+, Black)								
	10	LA3	16	0F	0F	Level depend Gain (-, White)								
	11	LA4	17	01	0F	Level depend Gain (-, Black)								
	12	CRW	18	04	07	TE Y/C Compensation ratio								
	13	YCD	19	03	07	TE Y/C output delay adjustment								
NR	00	DMO	0	00	01	NR Demo Mode ON/OFF (1=Demo Mode)								
	02	THH	2	0F	1F	Offset of Noise Threshold level for horizontal direction								
	03	BLL	3	07	0F	Offset of Level detection for Black Level								
	04	CST	4	07	0F	Offset of Level detection for Color Level								
	05	THC	5	07	0F	Offset of Edge Detection Threshold								
	06	NRF	6	00	01	NR0 always Rank = 0								
	07	DIG	7	00	01	A/D in or Digital In (1=Digital In)								
TXT	00	TXH	0	0	3	Teletext Horizontal Position		10 (1-0)	SAA5261(58H)	96 (1-0)	A4	58	1-0	-
	01	TXV	1	0	3	Teletext Vertical Position		10 (5-4)		96 (5-4)	A4	58	5-4	-
PJE	00	PJE	0	0	1	(PJ-Engine Service Control)			CXPxxxx(6AH)					
OPM	00	OSH	0	0D	3F	OSD H Position	Option - Misc	1F1	CXP750097(60H)	17B (7-2)	A0	27	7-2	-
	01	COM	1	2	3	Comb Selection (0: None, 1: NTSC, 2: Digital, 3: 3D)				34D (7-6)	A0	50	7-6	-
	02	APC	2	1	1	APC Switch				34C (5)	A0	4F	5	-
	03	TSY	3	0	3	TV Sys at Auto TV Sys				34C (4-3)	A0	4F	4-3	-
	04	MUT	4	0	1	No signal Mute				34C (0)	A0	4F	0	-
	05	AFM	5	1	1	Auto FM switch				34C (1)	A0	4F	1	-
	06	RFB	6	0	3	C-BPF Control				34D (5-4)	A0	50	5-4	-
	07	TVO	7	2	7	Tilt to V-Angle offset				34D (2-0)	A0	50	2-0	-
	08	DBL	8	0	1	Disable Blueback Function				34C (2)	A0	4F	2	-
	09	SSO	9	1	3	Speed Search Option (0: Off, 1: 4x, 2: 6x, 3: 8x)				34C (7-6)	A0	4F	7-6	-
	0A	SCH	10	1	7F	CH Selection for Shipping Condition	NTSC models only			387 (0-6)	A0	3D	6-0	-
	0B	SCA	11	1	1	Cable/Air selection for shipping condition	NTSC models only			387 (7)	A0	3D	7	-
	0C	POR	12	0	1	Power on Reset Detection From YCT				34D(3)	A0	50	3	-
	0D	NRC	13	3	FF	N-Det Counter for DTE								
OPB	00	OP1	0	FF	FF	Optional Bits 1 (see below)	Option - Bits		CXP750097(60H)	4E	A0	2D	7-0	-
	01	OP2	1	67	FF	Optional Bits 2 (see below)				4F	A0	2E	7-0	-
	02	OP3	2	31	FF	Optional Bits 3 (see below)				50	A0	2F	7-0	-
	03	OP4	3	97	FF	Optional Bits 4 (see below)				51	A0	30	7-0	-

NOTE

- shaded items are fixed data.
- Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
- Note for Different Data Those are the standard data values written on the microprocessor. Therefore, the data values of the modes and stored respectively in the memory. In case of a device replacement, adjustment by rewriting the data value is necessary for some items.

Adjustment Item Table (For KV-AR29N90 only)

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name (Slave Address)	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
GEO	00	HPS	1E	3F	H Position	Normal(50/60)/Wide(50/60)	CXA2159S(88H)	3B9 (7-2)	A6	(6B/6D)/(6F/71)	7-2	1E (for 60Hz)
	01	HSZ	25	3F	H Size	Normal(50/60)/Wide(50/60)		99 (7-2)	A0/A4	(A0/AD)/(43/4E)	7-2	typical
	02	PAP	1F	3F	Pin Amp	Normal(50/60)/Wide(50/60)		9B (7-2)	A0/A4	(A2/AF)/(45/50)	7-2	typical
	03	TLT	7	0F	Trapezium	Normal(50/60)/Wide(50/60)		9D (7-4)	A0/A4	(A4/B1)/(47/52)	7-4	typical
	04	VPS	1F	3F	V Position	Normal(50/60)/Wide(50/60)		97 (7-2)	A0/A4	(9E/AB)/(41/4C)	7-2	typical
	05	VSZ	1F	3F	V size	Normal(50/60)/Wide(50/60)		96 (7-2)	A0/A4	(9D/AA)/(40/4B)	7-2	typical
	06	SCO	7	0F	S Correction	Normal(50/60)/Wide(50/60)		98 (7-4)	A0/A4	(9F/AC)/(42/4D)	7-4	typical
	07	VLN	7	0F	V Linearity	Normal(50/60)/Wide(50/60)		98 (3-0)	A0/A4	(9F/AC)/(42/4D)	3-0	typical
	08	BOW	7	0F	AFC Bow	Normal(50/60)/Wide(50/60)		9E (7-4)	A0/A4	(A5/B2)/(48/53)	7-4	typical
	09	AGL	7	0F	AFC Angle	Normal(50/60)/Wide(50/60)		9E (3-0)	A0/A4	(A5/B2)/(48/53)	3-0	typical
	0A	UPN	1F	3F	Upper Pin	Normal(50/60)/Wide(50/60)		9C (7-2)	A0/A4	(A3/B0)/(46/51)	7-2	typical
	0B	LPN	1F	3F	Lower Pin	Normal(50/60)/Wide(50/60)		A0 (7-2)	A0/A4	(A7/B4)/(4A/55)	7-2	typical
	0C	HBL	1	1	H Blanking on/off			3BB (1)	A6	73	1	typical
	0D	LBL	0B	0F	Left H Blanking	Normal(50/60)/Wide(50/60)		3BA (7-4)	A6	(6C/6E)/(70/72)	7-4	0F (for 60Hz)
	0E	RBL	2	0F	Right H Blanking	Normal(50/60)/Wide(50/60)		3BA (3-0)	A6	(6C/6E)/(70/72)	3-0	typical
WHB	00	RDR	25	3F	R Drive	DYNAMIC/others	CXA2159S(88H)	369 (7-2)	A0	C0/BA	7-2	2A (for non-DYNAMIC)
	01	GDR	25	3F	G Drive	DYNAMIC/others		36A (7-2)	A0	C1/BB	7-2	typical
	02	BDR	25	3F	B Drive	DYNAMIC/others		36B (7-2)	A0	C2/BC	7-2	typical
	03	RCT	7	0F	R Cutoff	SECAM/others		36D (3-0)	A0	C3/BD	3-0	typical
	04	GCT	7	0F	G Cutoff	SECAM/others		36E (7-4)	A0	C4/BE	7-4	typical
	05	BCT	7	0F	B Cutoff	SECAM/others		36E (3-0)	A0	C4/BE	3-0	typical
	06	BMN	15	1F	Brightness Minimum Data			106 (6-2)	A0	22	6-2	-
	07	SBR	25	3F	Sub Brightness Control			107 (7-2)	A0	23	7-2	-
	08	APB	0	3	Sub Bright Control Switch for Intelligent Picture #3			107 (1-0)	A0	23	1-0	-
SAJ	00	PMX	38	3F	Picture Maximum Data	non-Wide/Wide	CXA2159S(88H)	105 (7-2)	A0	21/20	7-2	typical
	01	SHU	7	0F	Sub Hue Control	TV/Video		108 (5-2)	A0	24/38	5-2	typical
	02	SSH	5	0F	Sub Sharpness Control	TV/Video		109 (7-4)	A0	25/36	7-4	09 (for VIDEO)
	03	SCL	1F	3F	Sub Color Control	(NTSC/others)/WIDE(NTSC/others)		10A (7-2)	A0	(37/26)/(3C/3B)	7-2	typical

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
VP	00	EHT	5	0F	EHT Comp	NORMAL (50/60)/WIDE (50/60)	CXA2159S(88H)	9D (3-0)	A0[/A4]	A4/B1[/(47/52)]	3-0	typical
	01	GMA	2	3	Gamma Correction (sepatated in STANDARD mode)	NON-STD(NTSC/others)/STD(NTSC/others)		352 (1-0)	A4	68/67/6A/69	1-0	typical
	02	APG	0	1	Gamma Control Switch for Intelligent Picture #3	NON-STD(NTSC/others)/STD(NTSC/others)		352 (2)	A4	68/67/6A/69	2	-
	03	YDL	6	0F	Y Delay	PAL/SECAM/NTSC/DVD		357 (3-0)	A4	3C/3E/3D/3F	3-0	(09/08/08 for SECAM/NTSC/DVD)
	04	SST	1	3	SECAM ID Start Position	SECAM&ATUTO/FORCED-PAL&NTSC		354 (5-4)	A4	6B/6D	5-4	(00 for forced PAL/NTSC)
	05	SSP	1	3	SECAM ID Stop Position	SECAM&ATUTO/FORCED-PAL&NTSC		354 (7-6)	A4	6B/6D	7-6	(03 for forced PAL/NTSC)
	06	RLM	0	3	RGB Limit			5D (1-0)	A0	83	1-0	typical
	07	SLV	2	O3	SECAM ID Level	SECAM&ATUTO/FORCED-PAL&NTSC		355 (1-0)	A4	6C/6E	1-0	(02 for forced PAL/NTSC)
	08	SBF	22	3F	SECAM BELL fO	SECAM&ATUTO/FORCED-PAL&NTSC		355 (7-2)	A4	6C/6E	7-2	(22 for forced PAL/NTSC)
	09	DYC	1	1	Dynamic Color on/off			66 (1)	A0	8C	1	-
	0A	ABL	1	1	ABL Mode Switching (except STANDARD mode)	except STANDARD		65 (1)	A0	8B	1	(00 for STANDARD)
	0B	VTH	1	1	ABL Detection Vth Switching			65 (0)	A0	8B	0	-
	0C	SF0	1	1	FO Switching for Sharpness	NTSC/others		33C (1)	A4	5C/59	1	typical
	0D	DCX	1	1	DC Trans. Ratio Switching			62 (1)	A0	88	1	-
	0E	SHT	1	1	Pre-/Overshoot ratio Switch	NTSC/others		33D (0)	A4	5D/5A	0	typical
	0F	HDW	0	1	H Drive Pulse Width Switch			5A (6)	A0	80	6	-
	10	AFC	1	O3	AFC Gain Control	TV/Video/Text		A3 (1-0)	A0	28/29/2A	1-0	(00/01 dor VIDEO/TEXT)
	11	HOS	7	0F	H Oscillation			68 (7-4)	A0	8E	7-4	-
	12	HSS	0	1	Slice Level of H Sync Sep.			69 (1)	A0	8F	1	-
	13	VSS	0	1	Slice Level of V Sync Sep.			69 (0)	A0	8F	0	-
	14	HMS	1	1	Macro Vision C/m off/on	NORMAL (50/60)/WIDE (50/60)		96 (0)	A0[/A4]	9D/AA[/(40/4B)]	0	typical
	15	YUV	0	1	Y SEL			5A (2)	A0	80	2	-
	16	CDV	1	3	CD mode for video and RF under no signal	video only		350 (5-4)	A0	2B	5-4	-
	17	RON	1	1	R ON	not memorized		5B (2)	A0	81	2	not memorised
	18	GON	1	1	G ON	not memorized		5B (1)	A0	81	1	not memorised
	19	BON	1	1	B ON	not memorized		5B (0)	A0	81	0	not memorised
	1A	PON	1	1	P ON	not memorized		5A (7)	A0	80	7	not memorised
	1B	AXN	1	1	AXIS SW	(NTSC/others)/Wide(NTSC/others)[only for DYNA]		10A (0)	A0	37/26[/(3C/3B)]	0	-
	1C	RSL	0	1	RGB SEL			66 (0)	A0	8C	0	-
	1D	VBW	0	3	VBLKW			70 (1-0)	A0	96	1-0	-
	1E	RFP	0	1	REFP			6E (0)	A0	94	0	-
	1F	VMC	0	3	VM Level			5D (3-2)	A0	83	3-2	-
	20	CBF	0	1	Chroma Bandpass Filter			33E (1)	A6	74	1	
	21	CTO	0	1	Chroma Trap Off			33E (0)	A6	74	0	

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
AP2	00	BBS	3	0F	Bass Boost Level Setting			3C1 (7-4)	A0	44	7-4	
	01	BCB	0	1	Boost cut select for Sub Bass Control			3C2 (2)	A0	45	2	
	02	SBS	0	3	Sub Bass Level Setting			3C2 (1-0)	A0	45	1-0	
	03	BCT	0	1	Boost cut select for Sub Treble Control			3C3 (2)	A0	46	2	
	04	STS	0	3	Sub Treble Level Setting			3C3 (1-0)	A0	46	1-0	
	05	AGL	0	3	AGC Level Setting			3C5 (3-2)	A0	48	3-2	
	06	BSW	0	1	Bass Boost ON/OFF Switch			3C1 (3)	A0	44	3	
	07	BAS	0	1F	Bass sound mode control	{BSW:1/10} * dyna/drama/soft		3C7 (4-0)	A6	{7E/81/84}{75/78/7B}	4-0	
	08	TRE	0	1F	Treble sound mode control	{BSW:1/10} * dyna/drama/soft		3C8 (4-0)	A6	{7F/82/85}{76/79/7C}	4-0	
	09	BBE	0	FF	BBE Sound mode Control	{BSW:1/10} * dyna/ drama/soft		3C9 (7-0)	A6	{80/83/86}{77/7A/7D}	7-0	
MSP	00	WST	15	FF	W/G Stereo Threshold		MSP3415D(84H)	165	A0	60	7-0	-
	01	WBT	EC	FF	W/G Bilingual Threshold			166	A0	61	7-0	-
	02	WLL	5	FF	W/G Monaural Threshold			167	A0	62	7-0	-
	03	WAC	1	0F	W/G Agreement Count			168 (3-0)	A0	63	3-0	-
	04	WDL	30	FF	W/G Search Delay			169	A0	64	7-0	-
	05	NDL	20	FF	NICAM Search Delay			16A	A0	65	7-0	-
	06	SDL	10	FF	Stereo status Read Delay			16B	A0	66	7-0	-
	07	AGC	1	1	AGC Switch Auto/Constant			116 (7)	A0	68	7	-
	08	REL	28	3F	AGC Gain at Constant Mode			116 (6-1)	A0	68	6-1	-
	09	CRM	0	1	Carrier muting on/off			115 (9)	A0	67	1	-
	0A	ACO	1	1	Audio Clock out on/off			11A (5)	A0	69	5	-
	0B	FP	1B	7F	FM Prescale for non-M system			313	A0	6A	6-0	-
	0C	FPM	32	7F	FM Prescale for M system			314	A0	6B	6-0	-
	0D	FH	36	7F	FM Prescale for HDEV			315	A0	6C	6-0	-
	0E	FHM	65	7F	FM Prescale for HDEV and M			316	A0	6D	6-0	-
	0F	WGP	1C	7F	W/G Prescale			317	A0	6E	6-0	-
	10	NIP	7F	7F	NICAM Prescale			14F	A0	6F	6-0	-
	11	ERR	50	FF	Auto FM switch Threshold			174	A0	70	7-0	-
	12	VOL	6D	FF	Loud Speaker gain 7000h to 7ff0h			346	A4	62	7-0	-

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
PIP	00	PRO	0	1	Progreeive Scan Mode Enable		SDA9288X(D6H)	1B1	A4	00	2	
	01	RED	0	1	Read Double Mode			1B1	A4	00	3	
	02	FEI	0	3	Field Select			1B1	A4	00	1-0	
	03	HPS	35	FF	Horizontal Picture Position			34C	A4	26	7-0	
	04	VPS	1B	FF	Vertical Picture Position			1B3	A4	02	7-0	
	05	HFP	0	0F	Horizontal Fine Positioning			1B4	A4	03	3-0	
	06	VFP	0	0F	Vertical Fine Positioning			1B4	A4	03	7-4	
	07	DIS	0	3	Display standard			1B5	A4	04	7-6	
	08	HOS	0	3	Horizontal Size			1B5	A4	04	3-2	
	09	VES	0	3	Vertical Size			1B5	A4	04	1-0	
	0A	FPS	0	3	Force Parent Standard			1B6	A4	05	7-6	
	0B	HZM	0	7	Horizontal Zoom			1B6	A4	05	2-0	
	0C	VSP	0	1	Vertical Sync Pule Noise Reduction			1B7	A4	06	5	
	0D	VDL	0	1F	Vertical Sync Pulse Delay			1B7	A4	06	4-0	
	0E	FRH	5	7	Frame Width Horizontal			1B8	A4	07	4-2	
	0F	FWV	2	3	Frame Width Vertical			1B8	A4	07	1-0	
	10	VRD	0	1	Reduction			1B8	A4	07	5	
	11	VBK	0	1	Vertical Blanking			1B9	A4	08	5	
	12	DLY	0	F	Select Delay			1B9	A4	08	3-0	
	13	PCR	0	1	Position Correction			1BA	A4	09	7	
	14	AGM	3	3	AGC Mode			1BB	A4	0A	6-5	
	15	AGC	6	F	Automatic Gain Control Value			1BB	A4	0A	4-1	
	16	CVB	0	3	CVBS Select			1BC	A4	0B	7-6	
	17	CPD	1	3	CLAMPING Duration			1BC	A4	0B	5-4	
	18	CPT	1	3	CLAMPING Pulse start			1BC	A4	0B	3-2	
	19	LUM	0	3	Luminance offset			1BC	A4	0B	1-0	
	1A	PLL	0	3	Insert PLL Time Constant	TV/Video		34B	A4	24/25	7-6	
	1B	YCD	2	F	Y/C Delay	PAL/SECAM/NTSC/DVD		3DC	A4	98/99/9A/9B	3-0	
	1C	NSR	0	3	Noise Reduction for insert Pll	TV/VIDEO		34B	A4	24/25	5-4	
	1D	LSP	0	1	Standard Identification Speed			1BE	A4	0D	2	
	1E	KIL	0	3	Color Killer Treshold			1BE	A4	0D	1-0	
	1F	BGP	0	1	Burst Gate Position			1BF	A4	0E	7	
	20	SEC	0	1	SECAM Identification level			1BF	A4	0E	6	
	21	DEM	1	3	Deemphasw selection			1BF	A4	0E	5-4	
	22	CMA	0	3	Chroma Bandwith			1BF	A4	0E	1-0	
	23	IFC	2	3	IF Compensation Filter			1C0	A4	0F	7-6	
	24	HUE	0	1F	Hue			1C0	A4	0F	5-0	
	25	SCA	7	1F	Color Saturation Adjustment			1C1	A4	10	4-0	
	26	CON	0	F	Contrast Adjustment			1C2	A4	11	7-4	
	27	BLR	0	F	Blanking Level Red Channel			1C2	A4	11	3-0	
	28	BRT	0	F	Brightness Adjustment			1C3	A4	12	7-4	
	29	BLG	0	F	Blanking Level Green Channel			1C3	A4	12	3-0	
	2A	BIR	0	1	Blanking Inversion Red Channel			1C4	A4	13	5	
	2B	BIB	0	1	Blanking Inversion Blue Channel			1C4	A4	13	4	
	2C	BLB	0	F	Blanking level blue channel			1C4	A4	13	3-0	
	2D	INT	0	1	Refresh Interval			1C4	A4	13	6	
	2E	PKR	4F	FF	Peak Level Red Channel			1C5	A4	14	7-0	
	2F	PKG	4F	FF	Peak Level Green Channel			1C6	A4	15	7-0	
	30	PKB	4F	FF	Peak Level Blue Channel			1C7	A4	16	7-0	
	31	FRY	A	F	Frame Color Y			1C8	A4	17	3-0	
	32	OUT	1	1	Output Format			1C9	A4	18	7	
	33	FRU	0	F	Frame Color U			1C9	A4	18	3-0	
	34	FRV	0	F	Frame Color V			1CA	A4	19	3-0	
	35	SAT	7	F	Color Separation Adjustment			1CB	A4	1A	7-4	
	36	YPK	7	7	Y Peak Adjustment			1CB	A4	1A	3-1	
	37	YCO	0	F	Y Coring Enable			1CB	A4	1A	0	
	38	PAL	3	3	PAL ID level			1CE	A4	1D	1-0	
	39	POV	0	7	Position Offset Vertical			1CF	A4	1E	7-5	
	3A	POH	0	1F	Position Offset Horizontal			1CF	A4	1E	4-0	
	3B	VSH	0	1F	Vertical Shrink			1D0	A4	1F	4-0	-
	3C	HSH	0	1F	H Shrink			1D1	A4	20	4-0	-
	3D	CPL	1	3	CLAMPING Pulse Length			1D2	A4	21	1-0	-

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
YCT	00	SHU	0F	1F	Sub Hue Adjustment	TV/Video	CXA2163AQ(8AH)	39B	A4	7B/7C	4-0	
	01	PNG	1	1	PAL/NTSC Gate Width			7A	A4	28	6	
	02	PNI	0	1	PAL/NTSC Sensitivity SW			7A	A4	28	7	
	03	SCL	7	0F	Sub Color Control	50/60*TV/Video		39D	A4	73/74/75/76	3-0	
	04	SCT	8	0F	Sub Contrast Control	50/60*TV/Video		39D	A4	73/74/75/76	7-4	
	05	SF0	2	3	Sharpness Center Frequency Changing			7C	A4	2A	1-0	
	06	SEQ	3	3	Sharpness Equalizer Characteristic			7C	A4	2A	3-2	
	07	SHG	5	0F	Sharpness Gain Control	50/60*TV/Video/DVD		3AB	A4	92/93/94/95/96/97	7-4	
	08	YOL	1F	3F	Y-Output Level Control			7D	A4	2B	5-0	
	09	BSP	0	3	Black Stretch Start Point Changing			7D	A4	2B	7-6	
	0A	COL	1F	3F	Cb/Cr Output Level Control	DVD/others		3A3	A4	64/63	5-0	
	0B	DCR	0	3	DC Restoration Ratio Adjustment			7E	A4	2C	7-6	
	0C	BF0	1	3	BPF/TQF F0 Adjustment			7F	A4	2D	1-0	
	0D	BFQ	2	3	BPF/TQF Q Adjustment			7F	A4	2D	3-2	
	0E	FSW	1	1	BPF/TQF Switch			7F	A4	2D	4	
	0F	SDT	1	1	SECAM Double Trap Switch			7F	A4	2D	6	
	10	LPF	1	1	Y/Cb/Cr LPF Switch			7F	A4	2D	7	
	11	YDL	6	0F	Y-DL Time Adjustment	TV/Video/S-input/DVD		39A	A4	77/79/7A/78	6-3	
	12	CMT	0	1	Cb/Cr Output Mute Switch			81	A4	2F	7	
	13	B01	7	0F	Cb Offset Adjustment (main route)			82	A4	30	7-4	
	14	RO1	7	0F	Cr Offset Adjustment			82	A4	30	3-0	
	15	CDF	0	7	V Count Down Frequency Switch	forced 50Hz for no signal		3A9	A4	7D	2-0	
	16	CDM	0	3	V Count Down Judge Switch			84	A4	32	4-3	
	17	AFC	0	3	AFC Sensitivity Switch	(TV/)Video/DVD		3A5	A4	71/72	6-5	
	18	MVM	1	1	Macrovision Mask + AFC Mask			84	A4	32	7	
	19	SRY	7	0F	SECAM R-Y Black Adjustment			85	A4	33	3-0	
	1A	SBY	1	0F	SECAM B-Y Black Adjustment			85	A4	33	7-4	
	1B	BEL	2	3	SECAM BELL/HPF Switching			86	A4	34	1-0	
	1C	BLF	0	1	BELL f0 Adjustment			86	A4	34	2	
	1D	SVI	0	1	SECAM V-ID Switch			86	A4	34	3	
	1E	SGP	0	3	SECAM Gate Position Adjustment			86	A4	34	5-4	
	1F	SID	1	1	SECAM Sensitivity Switch	except SECAM		3A7	A4	3A	6	
	20	SIH	0	1	SECAM Inhibition Switch			86	A4	34	7	
	21	STP	0	1	Y Black Level Setup for PAL plus			87	A4	35	1	
	22	ASW	1	1	Auto Video select mode SW			87	A4	35	7	
	23	WSH	0	3	Sharpness Gain Step for noise reduction			3A1	A4	38	1-0	
	24	WCO	0	3	Cb/Cr Output Level Step for noise reduction			3A2	A4	39	7-6	
	25	CB2	7	0F	Cb2 offset adjustment (YCbCr2 input)			83	A4	31	7-4	
	26	CR2	7	0F	Cr2 offset adjustment (YCbCr2 input)			83	A4	31	3-0	
	27	HPH	0	1	HS Output phase switch			87	A4	35	3	
	28	VPH	0	1	Switch for VP output phase			88	A4	36	6	
	29	NCM	0	1	NTSC COMB			80	A4	2E	7	

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name Slave Address	RAM Address (Bit Range)	NVM Address			Remarks:
Category	No.	Name							Slave	Sub	Bit	Initial data for tables
TE	00	NR0	01	07	NR	NTSC/Others	DTE (E0H)	3AC	A6	5F/61	6-4	
	01	TC0	04	0F	TE Coring	NTSC/Others		3AC	A6	5F/61	3-0	
	02	TG0	05	07	TE Gain	NTSC/Others		3AD	A6	60/62	2-0	
	03	STH	00	01	Forced TE bypass 1:TE bypass			3B0	A6	63	1	
	04	COF	00	01	Color Component OFF 1:OFF(512)			386	A6	4D	2	
	05	YOF	00	01	Luminance Component OFF 1:OFF			386	A6	4D	1	
	06	VJR	00	03	V jitter control 0:ON 1:SP1 2:SP2 3:SP2			388	A6	4F	3-2	
	07	TOF	00	01	TE OFF 1: TE OFF			3B0	A6	63	7	
	08	DOF	00	01	Dot NR OFF 1:Dot NR OFF			3B0	A6	63	6	
	09	FOF	01	01	TE LPF OFF 1:LPF OFF			389	A6	50	5	
	0A	CTH	00	01	Color TE OFF 1:OFF			389	A6	50	4	
	0B	PSL	02	03	TE Parameter Selection			389	A6	50	1-0	
	0C	CLP	08	0F	Input Clamp Level			38A	A6	51	7-4	
	0D	CL2	08	0F	Output Clamp Level			38A	A6	51	3-0	
	0E	LA1	00	0F	Level depend Gain (+, White)			38F	A6	56	7-4	
	0F	LA2	01	0F	Level depend Gain (+, Black)			38F	A6	56	3-0	
	10	LA3	0F	0F	Level depend Gain (-, White)			390	A6	57	7-4	
	11	LA4	01	0F	Level depend Gain (-, Black)			390	A6	57	3-0	
	12	CRW	04	07	TE Y/C Compensation ratio			396	A6	5D	2-0	
	13	YCD	03	07	TE Y/C output delay adjustment			387	A6	4E	2-0	
	14	OSO	00	03	OFF Sharpness Offset in YCJ			3B0	A6	63	3-2	
NR	00	DMO	00	01	NR Demo Mode ON/OFF (1=Demo Mode)		DTE (BEH)	379	A6	41	1	
	01	THV	03	07	Offset of Noise Threshold level for vertical direction			3B3	A6	65	7-5	
	02	THH	0F	1F	Offset of Noise Threshold level for horizontal direction			3B3	A6	65	4-0	
	03	BLL	07	0F	Offset of Level detection for Black Level			3B4	A6	66	7-4	
	04	CST	07	0F	Offset of Level detection for Color Level			3B4	A6	66	3-0	
	05	THC	07	0F	Offset of Edge Detection Threshold			3B5	A6	67	3-0	
	06	NRF	00	01	NR0 always Rank = 0			3B7	A6	64	0	
	07	DIG	00	01	A/D in or Digital In (1=Digital In)			381	A6	49	5	
TXT	00	TXH	0	3	Teletext Horizontal Position		SAA5261(58H)	33A (1-0)	A4	58	1-0	-
	01	TXV	0	3	Teletext Vertical Position			33A (5-4)	A4	58	5-4	-
OPM	00	OSH	0D	3F	OSD H Position	Option - Misc	CXP750097(60H)	19B (7-2)	A0	27	7-2	-
	01	COM	2	3	Comb Selection (0:None, 1:NTSC, 2:Multi, 3:3D)[NON-DTE]/(0:None, 1:Multi, 2:3D, 3:None)[DTE]			331 (7-6)	A0	50	7-6	-
	02	APC	1	1	APC Switch			330 (5)	A0	4F	5	-
	03	TSY	0	3	TV Sys at Auto TV Sys			330 (4-3)	A0	4F	4-3	-
	04	MUT	0	1	No signal Mute			330 (0)	A0	4F	0	-
	05	AFM	1	1	Auto FM switch			330 (1)	A0	4F	1	-
	06	RFB	0	3	C-BPF Control			331 (5-4)	A0	50	5-4	-
	07	TVO	2	7	Tilt to V-Angle offset			331 (2-0)	A0	50	2-0	-
	08	DBL	0	1	Disable Blueback Function			330 (2)	A0	4F	2	-
	09	SSO	1	3	Speed Search Option (0: Off, 1: 4x, 2: 6x, 3: 8x)			330 (7-6)	A0	4F	7-6	-
	0A	SCH	1	7F	CH Selection for Shipping Condition	NTSC models only		373 (0-6)	A0	3D	6-0	-
	0B	SCA	1	1	Cable/Air selection for shipping condition	NTSC models only		373 (7)	A0	3D	7	-
	0C	POR	0	1	Power on Reset Detection From YCT			331 (3)	A0	50	3	-
	0D	NRC	3	FF	N-Det Counter for DTE			3DF (7-0)	A0	3E	7-0	-
	0E	RUC	0F	0F	RF Signal Charge Counter after Unlocked			3E4 (3-0)	A0	4E	3-0	-
	0F	RLC	0F	0F	RF Signal Charge Counter after Locked			3E3 (3-0)	A0	4D	3-0	-
	10	BYP	0	1	Bypass PICSI			3B0 (0)	A6	63	0	-
	11	PBL	0	1	PICSI ON/OFF Blanking			3E2 (0)	A6	68	0	-
OPB	00	OP1	FF	FF	Optional Bits 1 (see below)	Option - Bits	CXP750097(60H)	4E	A0	2D	7-0	-
	01	OP2	67	FF	Optional Bits 2 (see below)			4F	A0	2E	7-0	-
	02	OP3	31	FF	Optional Bits 3 (see below)			50	A0	2F	7-0	-
	03	OP4	97	FF	Optional Bits 4 (see below)			51	A0	30	7-0	-

NOTE

- shaded items are fixed data.
- Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
- Note for Different Data Those are the standard data values written on the microprocessor. Therefore, the data values of the modes and stored respectively in the memory. In case of a device replacement, adjustment by rewriting the data value is necessary for some items.

ITEM INFORMATION

No. OPB0 OP1

Item	XTAL 4.43	XTAL 3.58	SECAM	AR34/29*	B/G	I	D/K	M
KV-AR29M60 (THAILAND)	1	1	1	0	1	1	1	1
KV-AR29M64 (THAILAND)	1	1	1	0	1	1	1	1
KV-AR29M64 (INDIA)	1	1	1	1	1	1	1	1
KV-AR29M66 (GE)	1	1	1	1	1	1	1	1
KV-AR29M68 (THAILAND)	1	1	1	0	1	1	1	1
KV-AR29M94 (INDIA)	1	1	1	1	1	1	1	1
KV-AR29N90 (TAIWAN)	1	1	1	1	1	1	1	1

AV Input 00 = no AV Input 01 = 1 AV Input

AR34/29* SHG offset in YCT 0 = AR29/25, 1 = AR34

(APPLICABLE FOR XF-L(21" & 14") MODELS ONLY.

No. OPB1 OP2

Item	TOP	NICAM	HDEV	Thai Bil	PIP 4	DVD Input	AV Input	
KV-AR29M60 (THAILAND)	0	1	1	0	0	1	1	1
KV-AR29M64 (THAILAND)	0	1	1	0	1	1	1	1
KV-AR29M64 (INDIA)	1	1	1	0	1	1	1	1
KV-AR29M66 (GE)	1	1	1	0	1	1	1	1
KV-AR29M68 (THAILAND)	0	1	1	0	0	1	1	1
KV-AR29M94 (INDIA)	1	1	1	0	1	1	1	1
KV-AR29N90 (TAIWAN)	1	1	1	0	1	1	1	1

AV Input 00 = no AV Input 01 = 1 AV Input
10 = 2 AV Input 11 = 3 AV Input

DVD Input Effective only when "AV Input" is set to 3 AV Input

PIP 4 PIP 4 0 = disabled, 1 = enabled

No. OPB2 OP3

Item	Initial menu	AP2	Auto PIC	A-TVsys	US ST	DTE	Forced 50/60	Colour SW*2
KV-AR29M60 (THAILAND)	1	1	1	1	0	0	0	1
KV-AR29M64 (THAILAND)	1	1	1	1	0	1	0	1
KV-AR29M64 (INDIA)	1	1	1	1	0	0	0	1
KV-AR29M66 (GE)	1	1	1	1	0	0	0	1
KV-AR29M68 (THAILAND)	1	1	1	1	0	1	0	1
KV-AR29M94 (INDIA)	1	1	1	1	0	0	0	1
KV-AR29N90 (TAIWAN)	1	1	1	1	0	0	0	1

Initial Menu Initial Menu Setup 0 = disabled, 1 = enabled

AP2 Auto Processor Selection 0 = AP, 1 = AP2.

Auto PIC*3 Auto Picture Improvement 0 = off PNC1/PNC2
1 = activate PNC1/PNC2

A-TVsys Auto TV System in Auto Program 0 = disabled, 1 = enabled

US ST* USA Stereo 0 = disabled, 1 = enabled

DTE DTE Model Selection 0 = Non DTE, 1 = DTE

Forced 50/60 Forced to 50/60 Hz during no signal condition 0=60Hz, 1=50Hz

Color SW*2 Color Data Selection in Dynamic Mode 0 = 65 (No PIP), 1 = 57 (PIP)

Note: *1 - For XA21/XH29 Models Only
*2 - For XA34/29/25 Models Only
*3 - For PNC3, the enables are from service item APG and APB.

No. OPB3 *OP4

Item	PNC2	Korean ST	Vid NTSC3.58	Wide	Video3	Chinese(multi mdl)	Arabic/C.Chinese	Thai/Korean
KV-AR29M60 (THAILAND)	1	0	0	1	0	1	1	1
KV-AR29M64 (THAILAND)	0	0	0	1	0	1	1	1
KV-AR29M64 (INDIA)	0	0	0	0	0	1	1	1
KV-AR29M66 (GE)	0	0	0	0	0	1	1	1
KV-AR29M68 (THAILAND)	0	0	0	1	0	1	1	1
KV-AR29M94 (INDIA)	0	0	0	0	0	1	1	1
KV-AR29N90 (TAIWAN)	0	0	0	0	0	1	1	1

APPLICABLE TO XS ONLY - Sub Language Selection (Bit 0 - Bit 2)

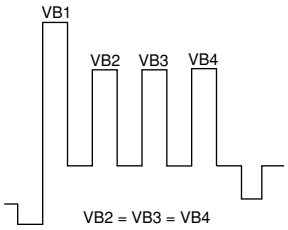
Korean Stereo*	Korean Stereo	0 = disabled, 1 = enabled
PNC2*2	Enable switch of PNC2	0 = disable, 1 = enable
Video NTSC3.58*	Video Color System	0 = Multi System, 1 = Single System (NTSC3.58)
Wide	Enable wide mode	0 = disable, 1 = enable

Note : *APPLICABLE FOR NTSC MODELS ONLY

4-3. ADJUSTMENT FOR NON DIGITAL TEXTURE ENHANCER (DTE) MODEL (not used for this model)

SUB COLOR ADJUSTMENT

1. Select Video.
2. Input PAL Color Bar
3. Set to following condition PICTURE 100%, BRIGHTNESS 50%, Color 50%.
4. Connect an oscilloscope to pin ① (BOUT) of CN305, A Board.
5. Set the service mode and select SAJ 3 'SCL' with 1 and 4 of the commander then adjust the VB2=VB3=VB4 3 and 6.
6. Press MUTING → of the commander to write the data.
7. Input NTSC Color Bar to set and repeat items (3 to 7).
8. Select "WIDE" mode, write the "SAME DATA- 3 STEPS" for both PAL and NTSC Color Bar input.



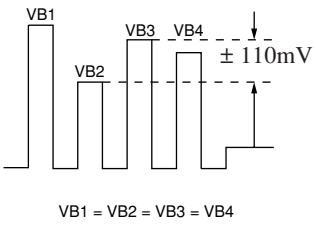
VB2 = VB3 = VB4 (Difference is within 70mV)

SUB COLOR ADJUSTMENT

1. Select Video.
2. Input PAL Color Bar
3. Set to following condition PICTURE 100%, BRIGHTNESS 50%, Color 50%.
4. Connect an oscilloscope to pin ① (BOUT) of CN305, A Board.
5. Set the service mode and select SAJ 3 'SCL' with 1 and 4 of the commander then adjust the VB2=VB3=VB4 3 and 6.
6. Press MUTING → of the commander to write the data.
7. Add 6 steps and save the data.
8. Input NTSC Color Bar to TV set and repeat items 3 to 7.
9. Select "WIDE" mode, write the "SAME DATA- 3 STEPS" for both PAL and NTSC Color Bar input.

SUB HUE ADJUSTMENT

1. Select Video 1.
2. Input a NTSC 3.58 color-bar, video into Video 1.
3. Set the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
4. Connect an oscilloscope to pin ① (B OUT) of CN305, A board.
5. Select SAJ 1 "SHU" with 1 and 4 of the commander by setting to Service Mode and adjust to VB1=VB2=VB3=VB4 with 3 and 6.



The highest level of VB1,VB2,VB3,VB4 must be aligned at the same line. Ideal difference level between VB2 and VB3 should be within ± 110mV.

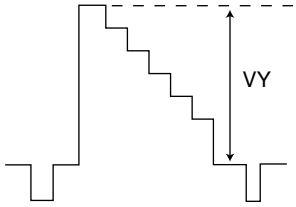
6. Press MUTING → of the commander to write the data.
7. Adjust SAJ 1 "SHU" as step 3 to 6 when receiving TV mode.

4-4. ADJUSTMENT FOR DIGITAL TEXTURE ENHANCER (DTE) MODEL

Y LEVEL ADJUSTMENT

1. Select Video.
2. Input PAL Color Bar to TV set (white reference 100%).
3. Set the following condition:
   DTE : ON
   Picture Mode : Dynamic
4. Connect an oscilloscope to pin ① (CV/Y in) of CN106, A Board.
5. Set to Service Mode and YCT 08 'YOL' with 1 and 4 of the commander then adjust to VY within spec with 3 and 6.
6. Then press MUTING → to write the data.
7. Select RF.
8. Repeat item 2 to 4.
9. Set to Service Mode and YCT 04 'SCT' with 1 and 4 of the commander then adjust to VY within spec with 3 to 6.
10. Copy SCT data to NTSC (RF).

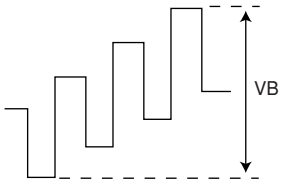
SCT Setting (Video Mode) : 07h (NTSC & PAL)



SPEC: VY : 1.2 Vpp ± 0.05m Vpp

SUB COLOR (YCT) ADJUSTMENT

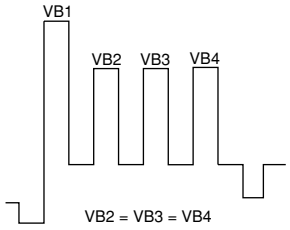
1. Select Video.
2. Input NTSC Color Bar.
3. Set the following condition:
   DTE : ON
   Picture Mode : Dynamic
   NTSC 75% Color Bar
4. Connect an oscilloscope to pin ② (B-Y in) of CN303, A Board.
5. Set to Service Mode and YCT 0A 'COL' with 1 and 4 of the commander then adjust to VB within spec with 3 and 6.
6. Then press MUTING → to write the data.
7. Select RF.
8. Repeat item no 2 to 4.
9. Set to Service Mode and YCT 03 'COL' with 1 and 4 of the commander then adjust the waveform within spec with 3 and 6.
10. Then press MUTING → to write the data.
11. Input PAL Color Bar (75%) and repeat item no 8 to 10.



SPEC :
VIDEO : VB = 0.931 Vpp ± 50 mVpp
RF : VB = 0.931 Vpp ± 50 mVpp

SUB COLOR (YCJ) ADJUSTMENT

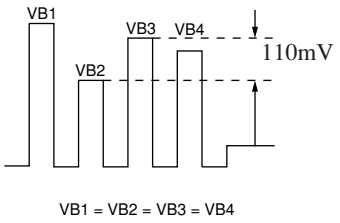
1. Select Video.
2. Input PAL Color Bar to TV set.
3. Set the following condition:
   Pic: 100%, Col: 50%, Brightness: 50%, DTE: OFF
4. Connect an oscilloscope to pin ② (B output) of CN305, A Board.
5. Set to Service Mode and SAJ 03 'SCL' with [1] and [4] of the commander then adjust to VB2 = VB3 = VB4 = with [3] and [6].
6. Then press [MUTING] → to write the data.
7. Add offset steps and save the data.
   Offset: 25... 0
   29... 0
   34... 0
8. Input NTSC color bar to TV set and repeat item no 3 to 7.
10. Select "WIDE" mode, write the "SAME DATA - 3 STEPS" for both PAL and NTSC input.



VB2 = VB3 = VB4 (Difference is within 70mV)

SUB HUE ADJUSTMENT

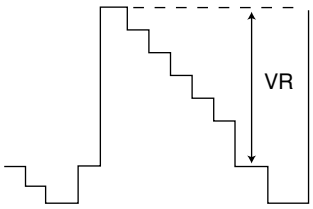
1. Select Video.
2. Input NTSC 3.58 Color Bar to TV Set.
3. Set the following condition:
   Pic: 100%, Col: 50%, Brightness: 50%, DTE: OFF
4. Connect an oscilloscope to pin ① (B output) of CN305, A Board.
5. Set to Service Mode and YCT 00 'SHU' with [1] and [4] of the commander then adjust to VB1 = VB2 = VB3 = VB4 = with [3] and [6].
6. Then press [MUTING] → to write the data.
7. Select RF.
8. Input NTSC 3.58 and repeat item no 3 and 6.



The highest level of VB1, VB2, VB3, VB4 must be aligned at the same time.
Ideal difference level between VB2 and VB3 should be within ± 110 mVpp.

PMX ADJUSTMENT

1. Select Video (Wide mode: OFF).
2. Input PAL Color Bar to TV set.
3. Set the following condition:
   Pic: 100%, Col: 50%, Brightness: 50%, DTE: OFF
4. Connect an oscilloscope to pin ③ (R output) of CN305, A Board.
5. Set to Service Mode and SAJ 00 'PMX' with [1] and [4] of the commander then adjust to VR within spec with [3] and [6].
6. Then press [MUTING] → to write the data.
7. Select "Wide" mode, write the "SAME DATA- 5 STEPS".



VR = 2.35 Vpp
(Difference is within 50 mVpp)

VP 06 RLM : 03H
17 R ON : 01H
18 G ON : 00H
19 B ON : 00H
After adjustment, these adjustment parameters must be recovered to the original condition.

4-5. DISPLAY POSITION ADJUSTMENT
(not used for this model)

PIP POSITION

1. Input a PAL color-bar.
2. Press PIP button of the remote commander to set the PIP picture.
3. Set to Service Mode.
4. Use [1] and [4] of the remote commander to select PIP 03 "HPS" and use [3] and [6] to set data "15".
5. Select PIP 04 "VPS" to set data "2E".
6. Press [MUTING] → of the remote commander to write the data.
7. Use the screen display menu changing the PIP position to check the PIP position.

4-6. DEFLECTION ADJUSTMENT

NORMAL MODE (50Hz)

1. Set Video Mode.
2. Using the [1] and [4] button, select category GEO (Service Mode).
3. Raise/lower the data using the [3] and [6] buttons. Select and adjust the following items to obtain optimum image.

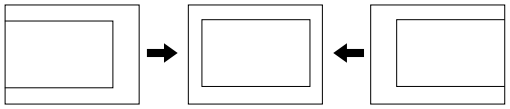
Service Item

GEO :	00	HPS	H POSITION
	01	HSZ	H SIZE
	02	PAP	PIN AMP
	03	TLT	TILT
	04	VPS	V POSITION
	05	VSZ	V SIZE
	06	SCO	S CORRECTION
	07	VLN	V LINEARITY
	08	BOW	AFC BOW
	09	AGL	AFC ANGLE
	0A	UPN	UPPER CORNER PIN
	0B	LPN	LOWER CORNER PIN

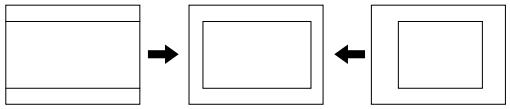
4-7. PICTURE DISTORTION ADJUSTMENT (1)

Item Number 00 – 0B

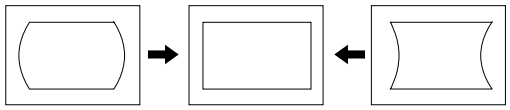
GEO 0 HPS (H POSITION)



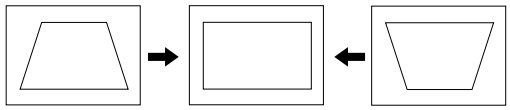
GEO 1 HSZ (H SIZE)



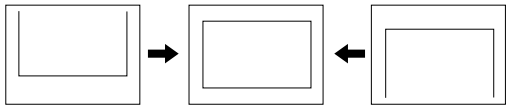
GEO 2 PAP (PIN AMP)



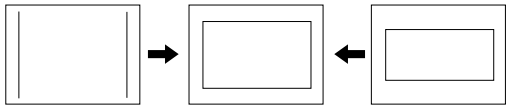
GEO 3 TLT (TRAPEZIUM)



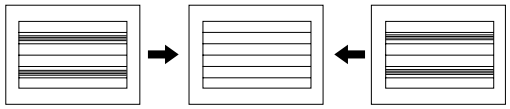
GEO 4 VPS (V POSITION)



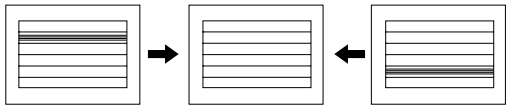
GEO 5 VSZ (V SIZE)



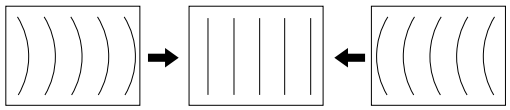
GEO 6 SCO (VERTICAL S-Correction)



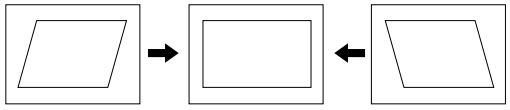
GEO 7 VLN (V LINEARITY)



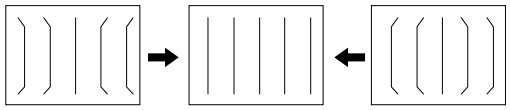
GEO 8 BOW (AFC. BOW)



GEO 9 AGL (AFC. ANGLE)

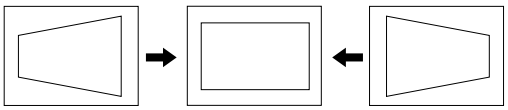


GEO 0A UPN (UPPER CORNER PIN)
GEO 0B LPN (LOWER CORNER PIN)



PICTURE DISTORTION ADJUSTMENT (2)

H-TRAPEZOID (DAC 4 HTR)

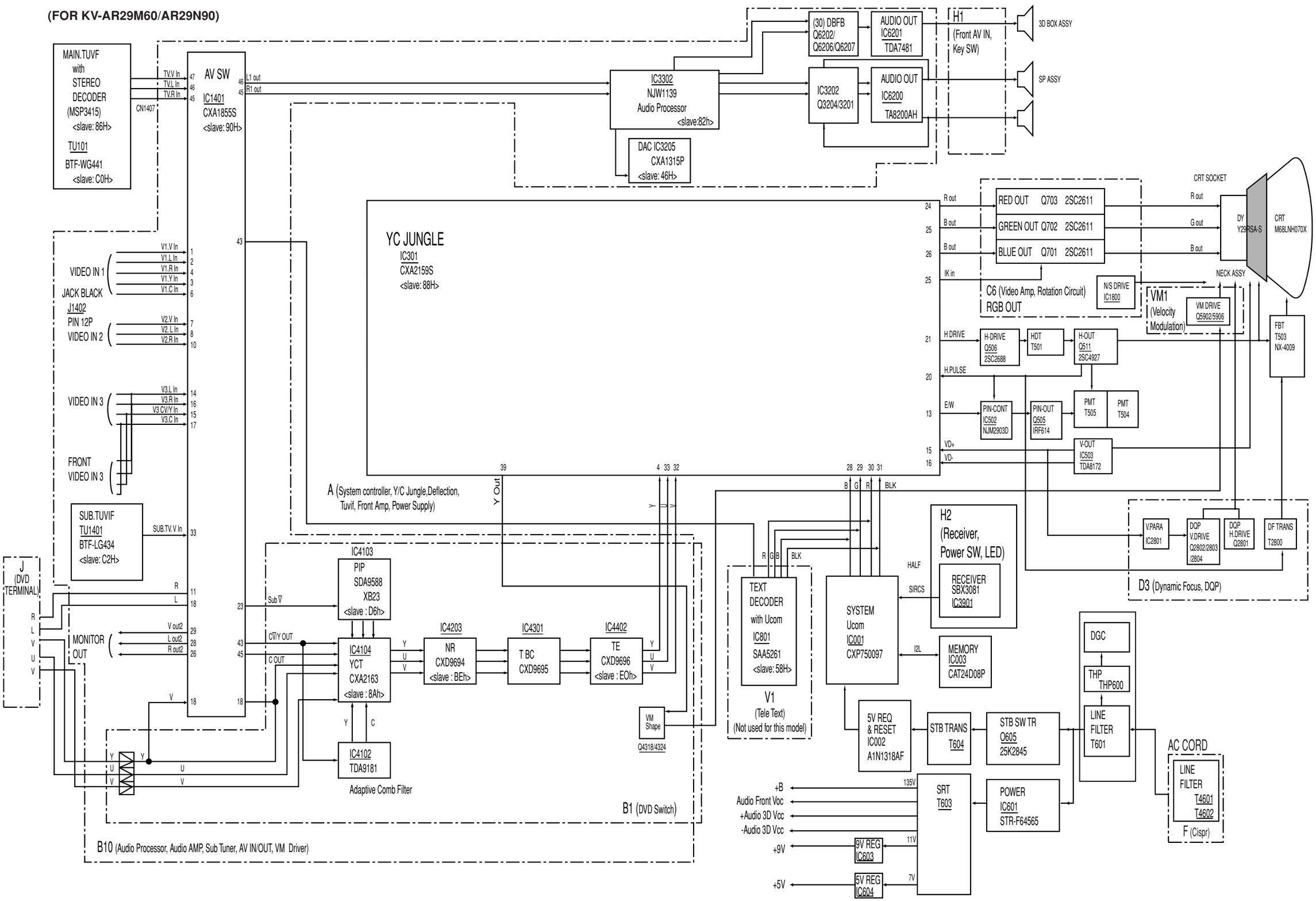


KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

SECTION 5
DIAGRAMS

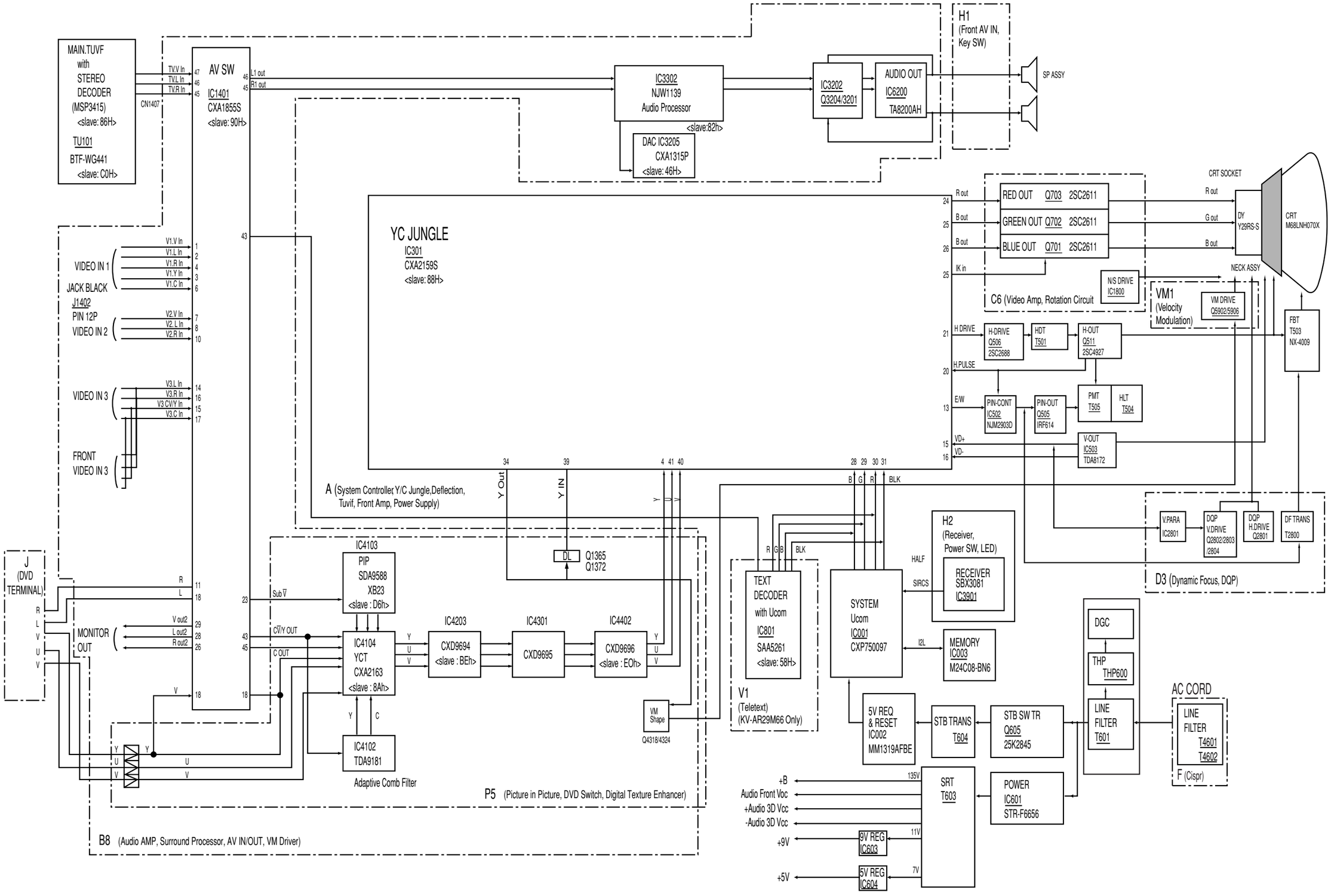
5-1. BLOCK DIAGRAM

(FOR KV-AR29M60/AR29N90)



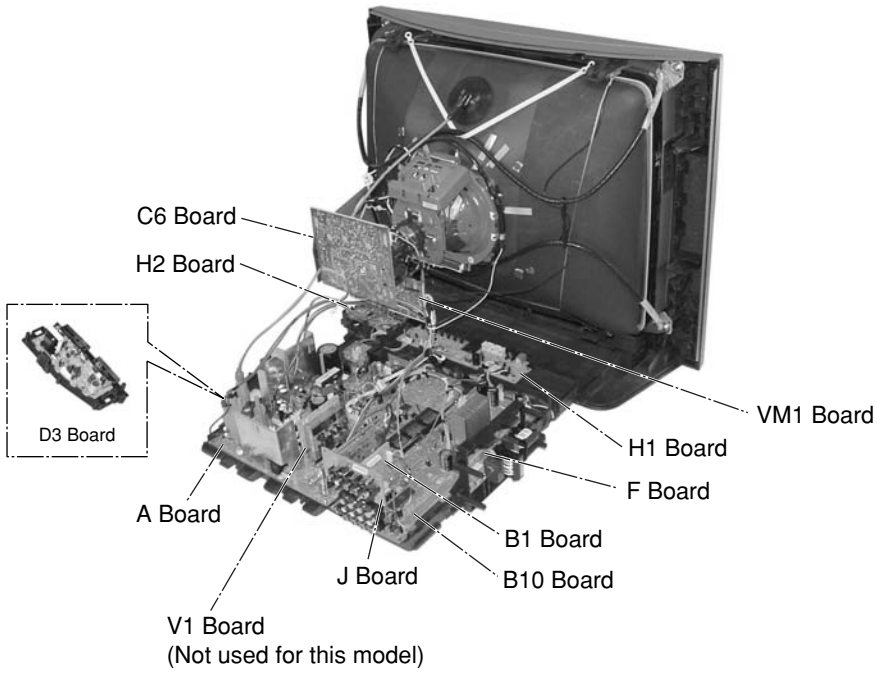
KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

(EXCEPT KV-AR29M60/AR29N90)

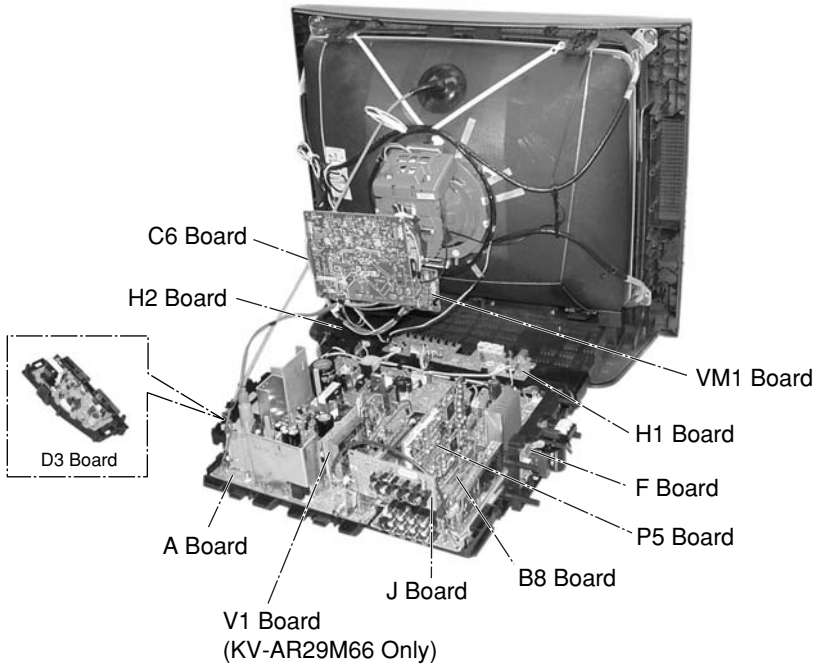


5-2. CIRCUIT BOARDS LOCATION

(FOR KV-AR29M60/AR29N90)



(EXCEPT KV-AR29M60/AR29N90)



5-3. SCHEMATIC DIAGRAM

Note:

- All capacitors are in µF unless otherwise noted.
- All electrolytic capacitors are rated at 50V unless otherwise noted.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000kΩ
- Indication of resistance which does not have rating electrical power is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W (CHIP: 1/10W)

- : nonflammable resistor.
- △ : internal component.
- : panel designation or adjustment for rrepair.
- All variable and adjustable resistors have characteristic curve B unless otherwise noted.
- **Readings are taken with a color-bar signal input.**
  no mark : Common
  ( ) : PAL
  [ ] : NTSC 3.58
- **Readings are taken with a 10MΩ digital multimeter.**
- **Voltage are dc with respect to ground unless otherwise noted.**
- **Voltage variations may be noted due to normal production tolerances.**
- **All voltage are in V.**
- **✻ : Cannot be measured.**
- **Circled numbers are waveform references.**
- **: B +bus.**
- **: B –bus.**
- **: signal path.**

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ✻	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(1) A Board Schematic Diagram

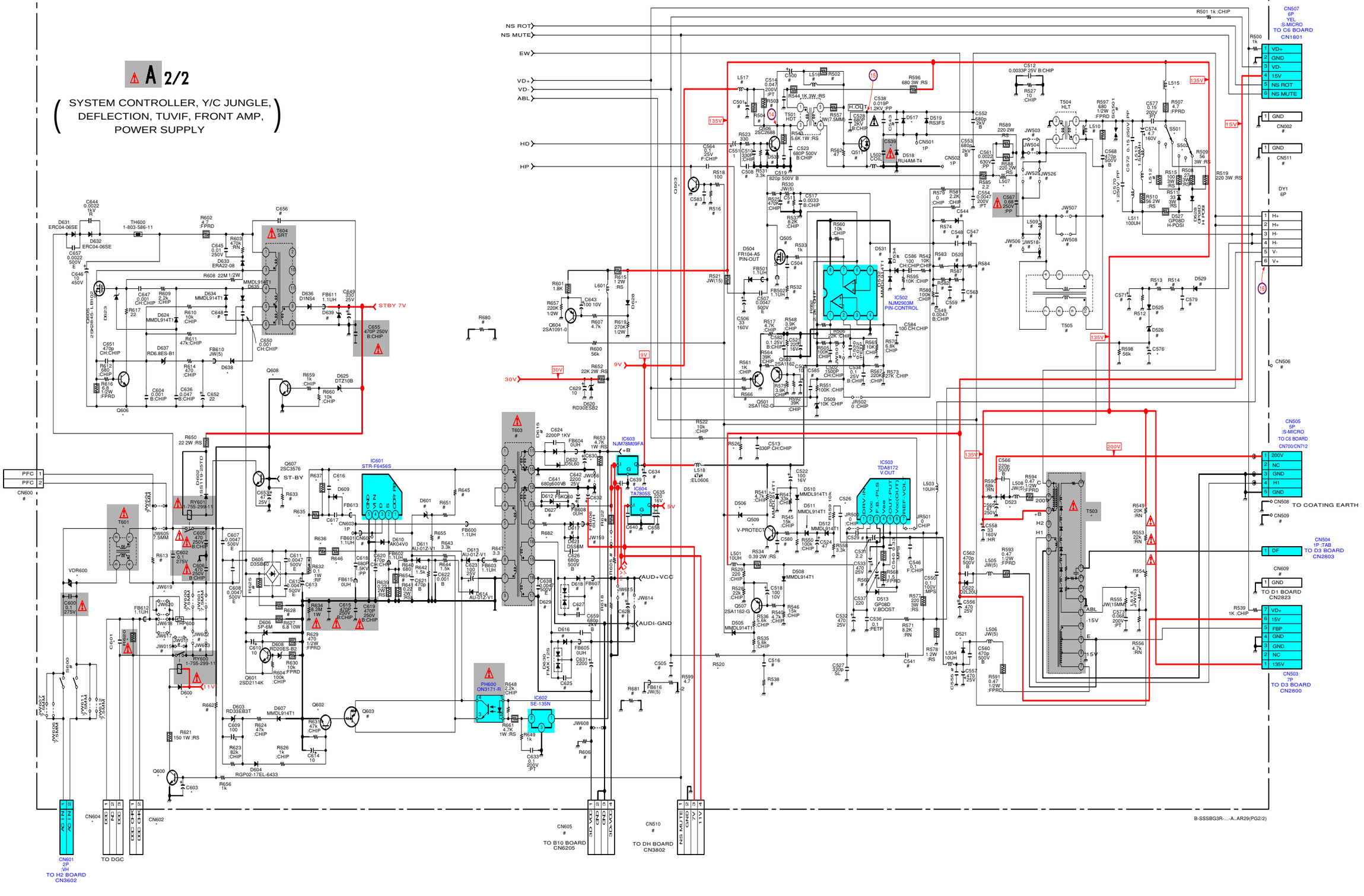
KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

A 1/2
(SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY)

KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

⚠A 2/2

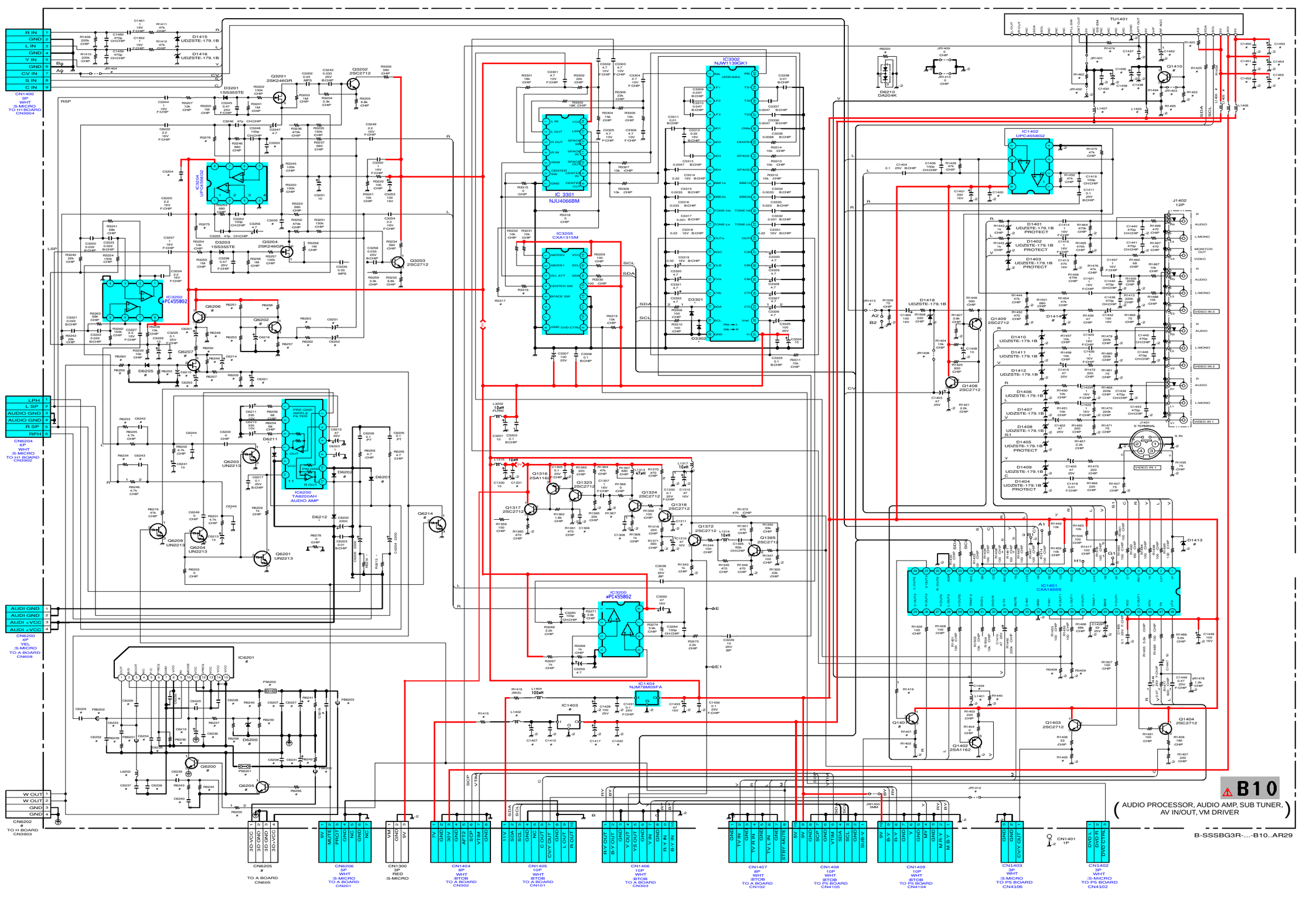
(SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY)



KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

(2) B10 Board Schematic Diagram

(FOR KV-AR29M60/AR29N90)



KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

(3) V1 Board Schematic Diagram

(FOR KV-AR29M66 ONLY)

V1
(TELETEXT)

IC801
SAA5261
EAST/ WEST
8/ 30
SDA
SCL
LC B
PKTX/ 30
DSR
LIST
VDDM
RESET
X OUT
X IN
X GND
VDDT
VDDA
VP
HP
BLK
R OUT
G OUT
B OUT
RGB REF
PON
COR
VSSA
ODD/EVEN
0.0
0.1
0.2
0.3
1.0
1.1
1.2
1.3(PWM)
RES
RES
RES
VSS D
CL(NVM)
DA(NVM)
SL ADDR
FIELD
HMD
VMD
PDI
PH.L
VSSA
CVBS
N.C
BLACK
I R E F

X801 15787742 1
D801 #
D802 DAP202U
FB804 470UH
FB803 1.1UH
FB802 1.1UH
FB801 1.1UH
D803 RD3.3M-B2
D804 RD5.6M-B2
FB805 1.1UH
Q801 2SC1623-L5L6
Q802 #
Q803 2SC21623-L5L6
Q805 2SC1623-L5L6
Q806 2SC1623-L5L6
Q807 2SC1623-L5L6
Q808 2SC1623-L5L6
Q810 2SC1623-L5L6
Q811 2SD2394
Q812 #
Q813 #
Q814 #
Q815 #
Q816 #
Q817 UN2211
Q818 #
JR800 0 :CHIP
FILTE R
B-SSSBG3R-...-V1..AR29

CN801 7P :BTOB TO A BOARD CN307
1 RED
2 GREEN
3 BLUE
4 BLK
5 GND
6 SDA
7 SCL

CN803 7P :BTOB TO A BOARD CN301
1 GND
2 VP
3 SCP
4 GND
5 GND
6 CVBS
7 7.5V

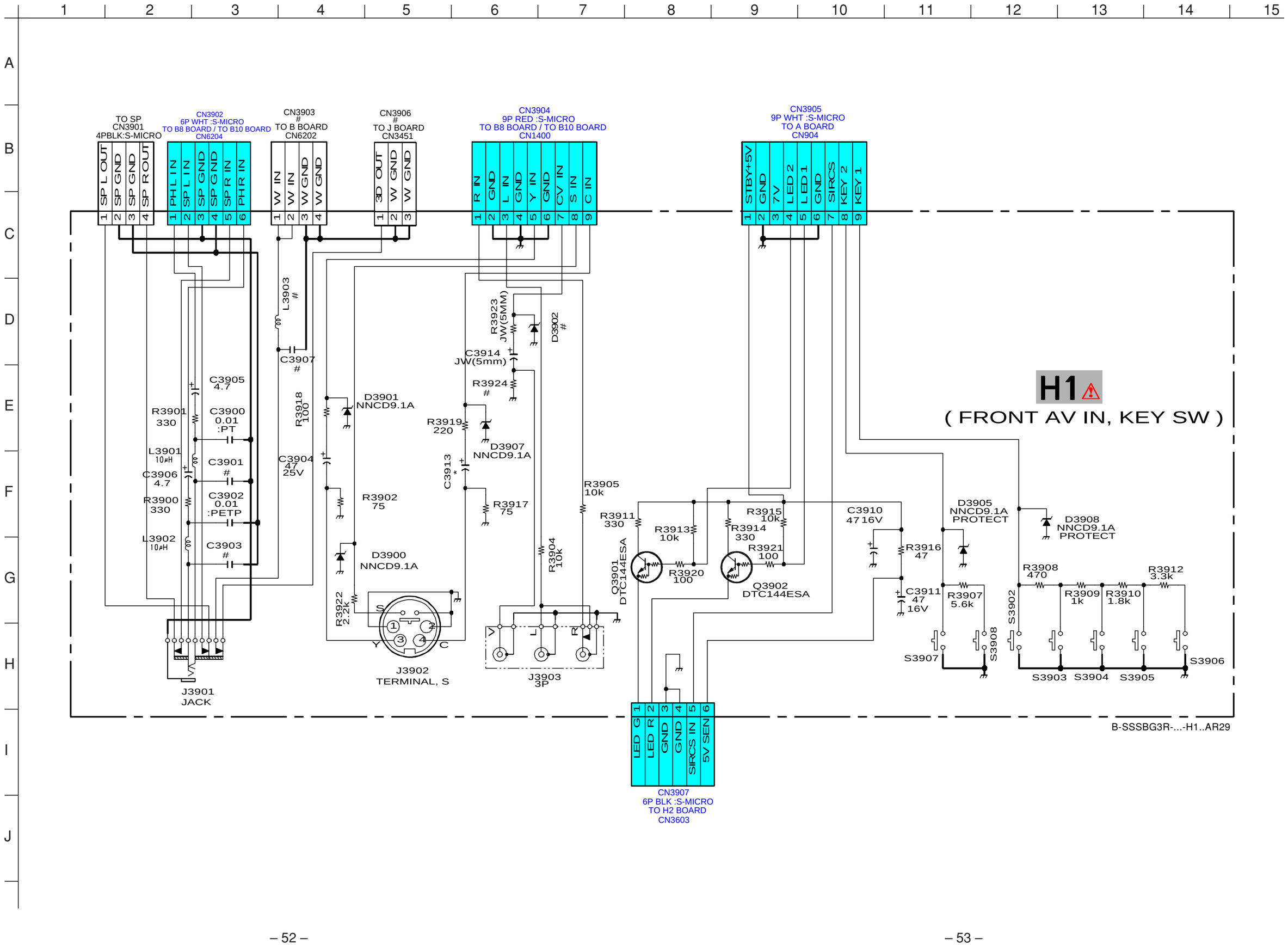
KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

(4) C6 Board Schematic Diagram

FV FOCUS
[RGB OUT]
H.STAT
SG701 #
J701 SOCKET
CN1801 6P BLK :S-MICRO
VD+OUT 1
GND 2
VD-OUT 3
15V 4
N/S ROT 5
N/S MUTE 6
TO A BOARD CN507
JW713#
15V
D1808 GP08DPKG23
C1809 1000 25V
R1806 4.7k
D1803 1SS119-25 PROTECT
R1821 22K
R1808 4.7k
C1804 10
R1822 33k
R1825 3.3k
IC1800 LA6510 N/S DRV
R1809 1k
R1804 JW(5MM)
C1800 10
R1801 5.6k
Q1800 2SA1175
C1810 100P B
D718 #
D719 #
C702 0.001 B
R734 100 1/2W
RV180 47k
RV702 110M
R701 100k1/2W
C701 0.0047 2kV E
L701 22µH :EL0607
200V
C717 4.7 250V
C719 #
R705 1.8 3W :RS
JW1801 1.1UH
R715 1.5k 1/2W
R713 1.5k 1/2W
R711 1K 1/2W
L705 33µH
L703 33UH
L707 47µH
D1804 1SS119-25 PROTECT
R1805 10k
Q1802 2SC2785 PVM-AMP
R1807 #
Q1803 #
R1811 22K
R1812 33k
R1803 1.2
R1802 1.2
R1823 5.6k
R1824 33k
R1810 33k
C1803 10
R1809 33k
CN1802 3P WHT :S-MICRO
N/S COIL- 1
NC 2
N/S COIL+ 3
TO NS COIL
C703 #
R714 10K 3W :RS
R718 100 :FPRD
R712 10K 3W :RS
R717 100 :FPRD
R710 10K 3W :RS
R716 100 :FPRD
L706 JW(5mm)
R760 1.5k :FPRD
Q703 2SC2611 R OUT
L704 JW(5mm)
Q702 2SC2611 G OUT
L702 JW(5mm)
R758 1.5k
Q701 2SC2611 B OUT
R759 1.5k
R702 #
C746 #
C736 #
C737 #
R703 #
R704 #
D706 1SS119-25 PROTECT
D703 1SS119-25 PROTECT
D705 1SS119-25 PROTECT
D702 1SS119-25 PROTECT
D701 1SS119-25 PROTECT
Q706 2SC2611
Q709 2SA1091 R 1K DETECT
Q708 2SA1091 G IK DETECT
Q707 2SA1091 B IK DETECT
D704 1SS119-25 PROTECT
Q704 2SC2611
Q705 2SC2611
R748 #
R724 1k :FPRD
R722 1k :FPRD
R720 1k :FPRD
R751 33K 3W :RS
D709 1SS119-25 PROTECT
R723 100K :RN-CP
D712 1SS119-25 PROTECT
D708 1SS119-25 PROTECT
D707 1SS133T PROTECT
D710 1SS119-25 PROTECT
R747 33k 3W :RS
R749 47k3W:RS
C709 470p B
C708 470p B
C710 470p B
R719 100K :RN-CP
9V
CN702 1P :TAB
G2
TO G2 FBT
200V
NC
E
H1
CN712 4P WHT :S-MICRO TO A BOARD CN505
CN701 #
CN700 1P :TAB
GND
TO A BOARD CN505
CN706 # TO CRT COATING
C6
(VIDEO AMP, ROTATION CIRCUIT)
B-SSSBG3R-...-C6..AR29
Q712 2SC2785 R AMP
Q711 2SC2785 G AMP
Q710 2SC2785 B AMP
R727 3.9k
R726 3.9k
R725 3.9k
R733 47
R732 47
R731 47
R730 180
R729 180
R728 180
C714 330P B
C713 330P B
C712 560p B
R757 6.8k
R756 6.8k
R755 6.8k
R738 100
R739 100
R740 100
D716 1SS119-25 PROTECT
D717 NNCD9.1A-T1
C718 100P B
C716 100 16V
Q714 2SC25510
R753 10k
R744 #
R745 #
D713 #
D714 #
D715 #
C726 #
CN704 1P :TAB
GND
TO CRT COATING
CN703 6P WHT :S-MICRO TO A BOARD CN305
B IN 1
G IN 2
R IN 3
GND 4
IK 5
9V 6
KG KB G2
H
CV KR G1 G4 HV
PICTURE TUBE M68LNH090X

KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

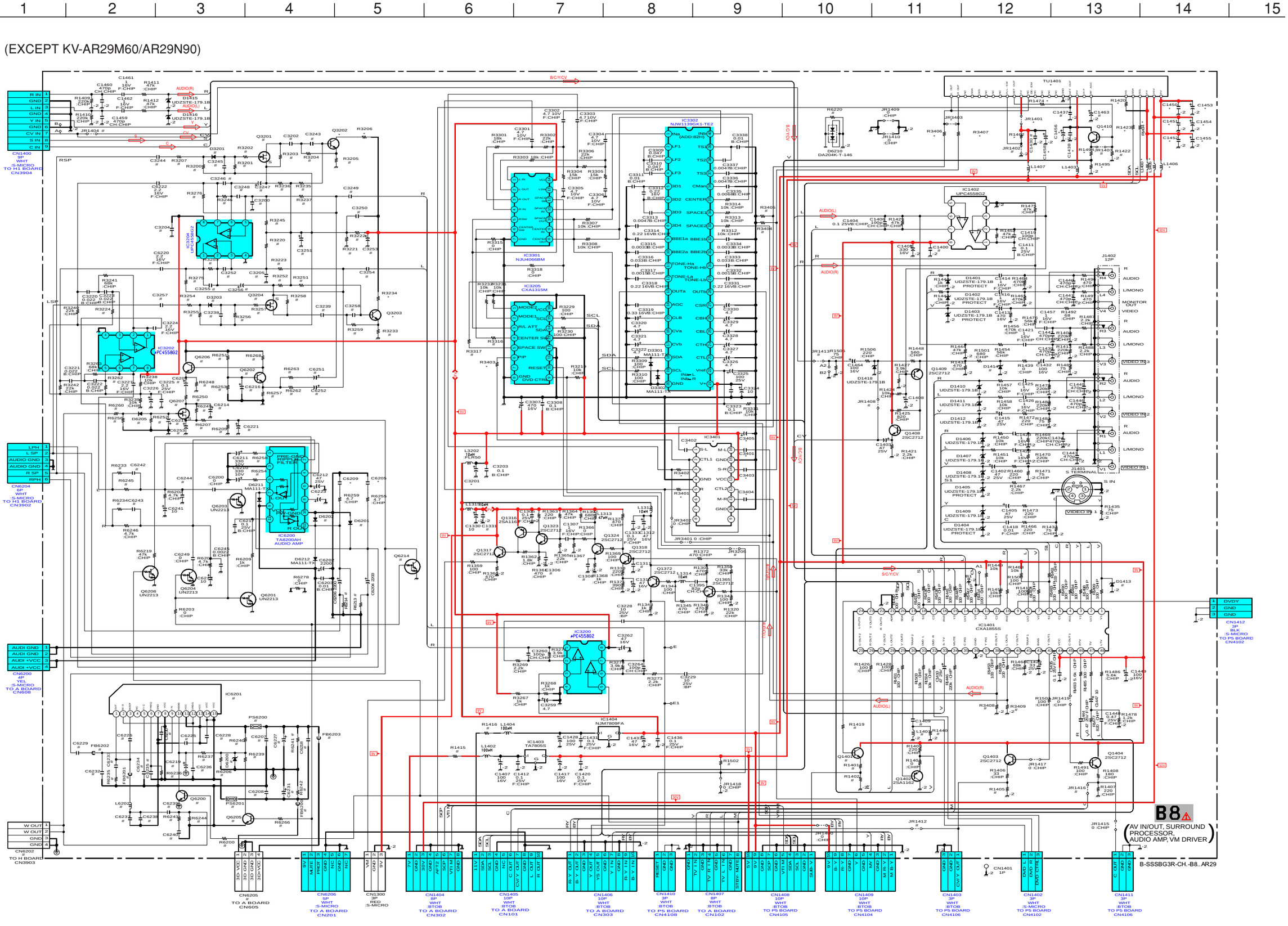
(5) H1 Board Schematic Diagram



KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

(6) B8 Board Schematic Diagram

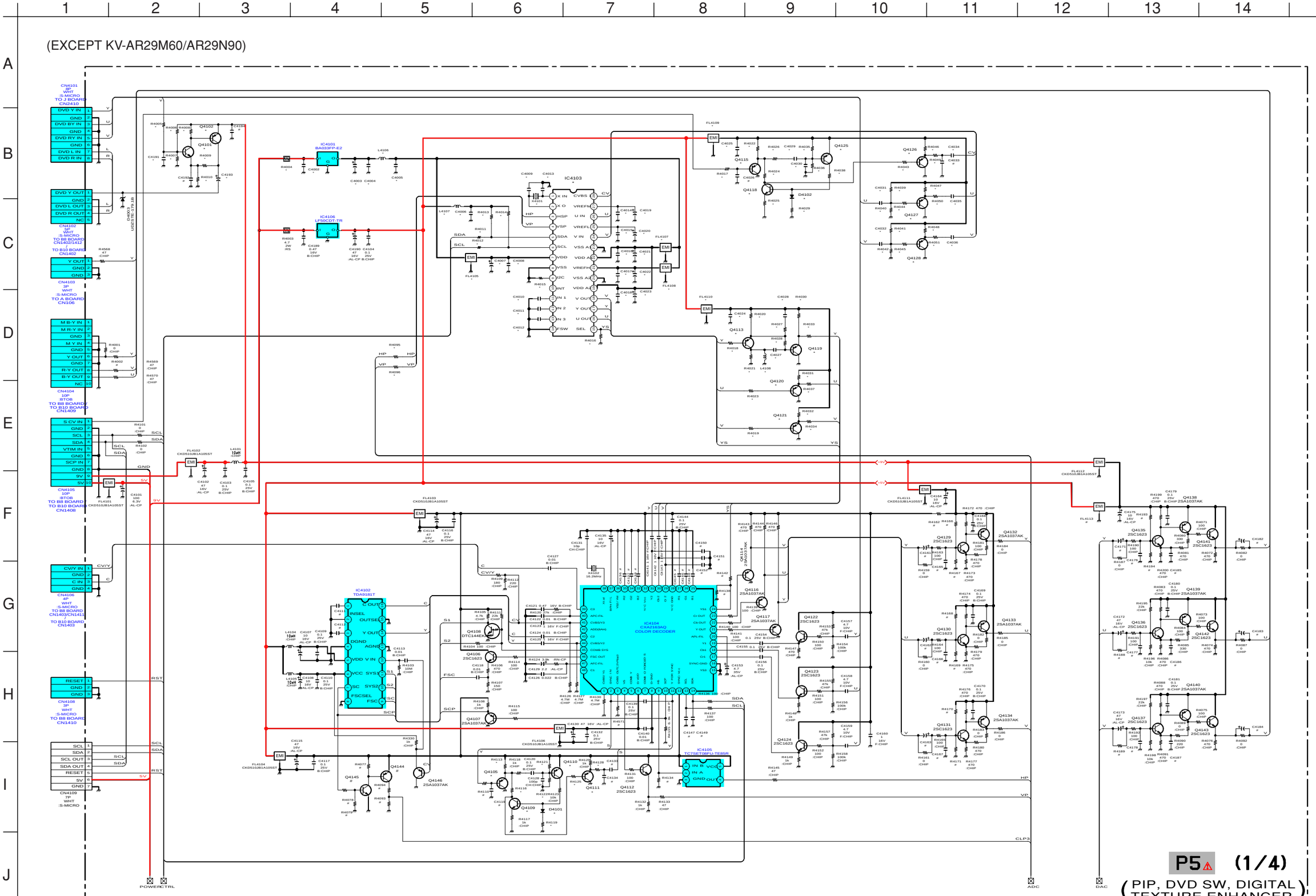
(EXCEPT KV-AR29M60/AR29N90)


B8
(AV IN/OUT, SURROUND PROCESSOR, AUDIO AMP, VM DRIVER)
B-SSSBG3R-CH.-B8..AR29
IC3302 NJW1195K1-TE2
IC3301 NJU4066BM
IC3205 CXA1315M
IC3204 μPC4558G2
IC3202 μPC455802
IC6200 TA8200AH AUDIO AMP
IC1402 UPC4558G2
IC1401 CXA1855S
IC2300 μPC455802
IC1404 NJM7809FA
IC1403 TA7805S
IC6201
IC3401
TU1401
CN1400 9P WHT :S-MICRO TO H1 BOARD CN3904
CN6204 6P WHT :S-MICRO TO H1 BOARD CN3902
CN6200 4P YEL :S-MICRO TO A BOARD CN608
CN6202 4P TO H BOARD CN3903
CN6205 TO A BOARD CN605
CN6206 5P WHT :S-MICRO TO A BOARD CN201
CN1300 3P RED :S-MICRO
CN1404 8P WHT :BTOB TO A BOARD CN302
CN1405 10P WHT :BTOB TO A BOARD CN101
CN1406 10P WHT :BTOB TO A BOARD CN303
CN1410 3P WHT :BTOB TO P5 BOARD CN4108
CN1407 8P WHT :BTOB TO A BOARD CN102
CN1408 10P WHT :BTOB TO P5 BOARD CN4105
CN1409 10P WHT :BTOB TO P5 BOARD CN4104
CN1403 3P WHT :BTOB TO P5 BOARD CN4106
CN1402 2P WHT :S-MICRO TO P5 BOARD CN4102
CN1411 3P WHT :BTOB TO P5 BOARD CN4106
CN1412 3P BLK :S-MICRO TO P5 BOARD CN4102
CN1401 1P
J1402 12P
TO A BOARD CN605
TO A BOARD CN201
TO A BOARD CN302
TO A BOARD CN101
TO A BOARD CN303
TO A BOARD CN102
TO P5 BOARD CN4108
TO P5 BOARD CN4105
TO P5 BOARD CN4104
TO P5 BOARD CN4106
TO P5 BOARD CN4102
TO P5 BOARD CN4106
TO H BOARD CN3903
TO A BOARD CN608
TO H1 BOARD CN3902
TO H1 BOARD CN3904

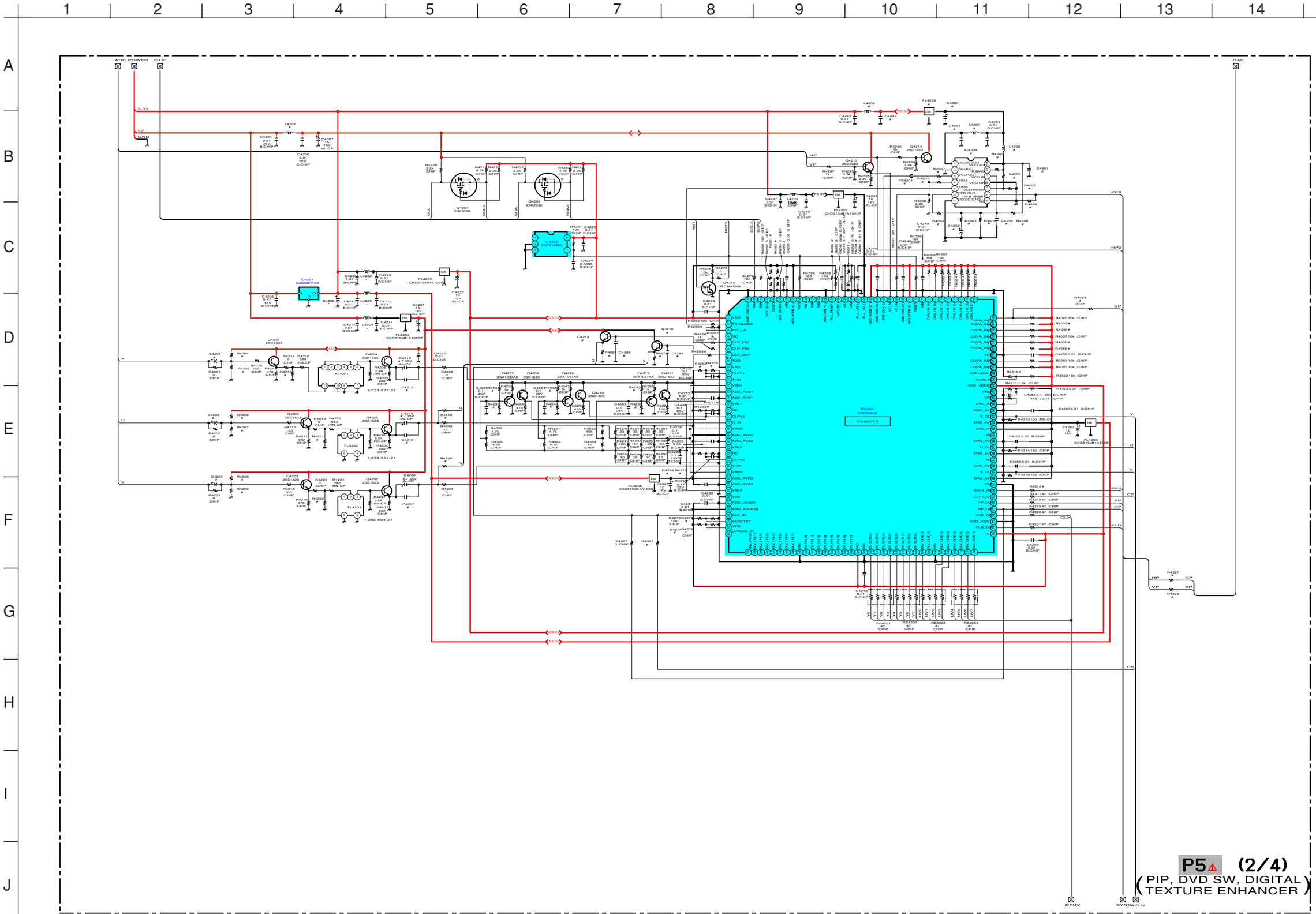
KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

(7) P5 Board Schematic Diagram

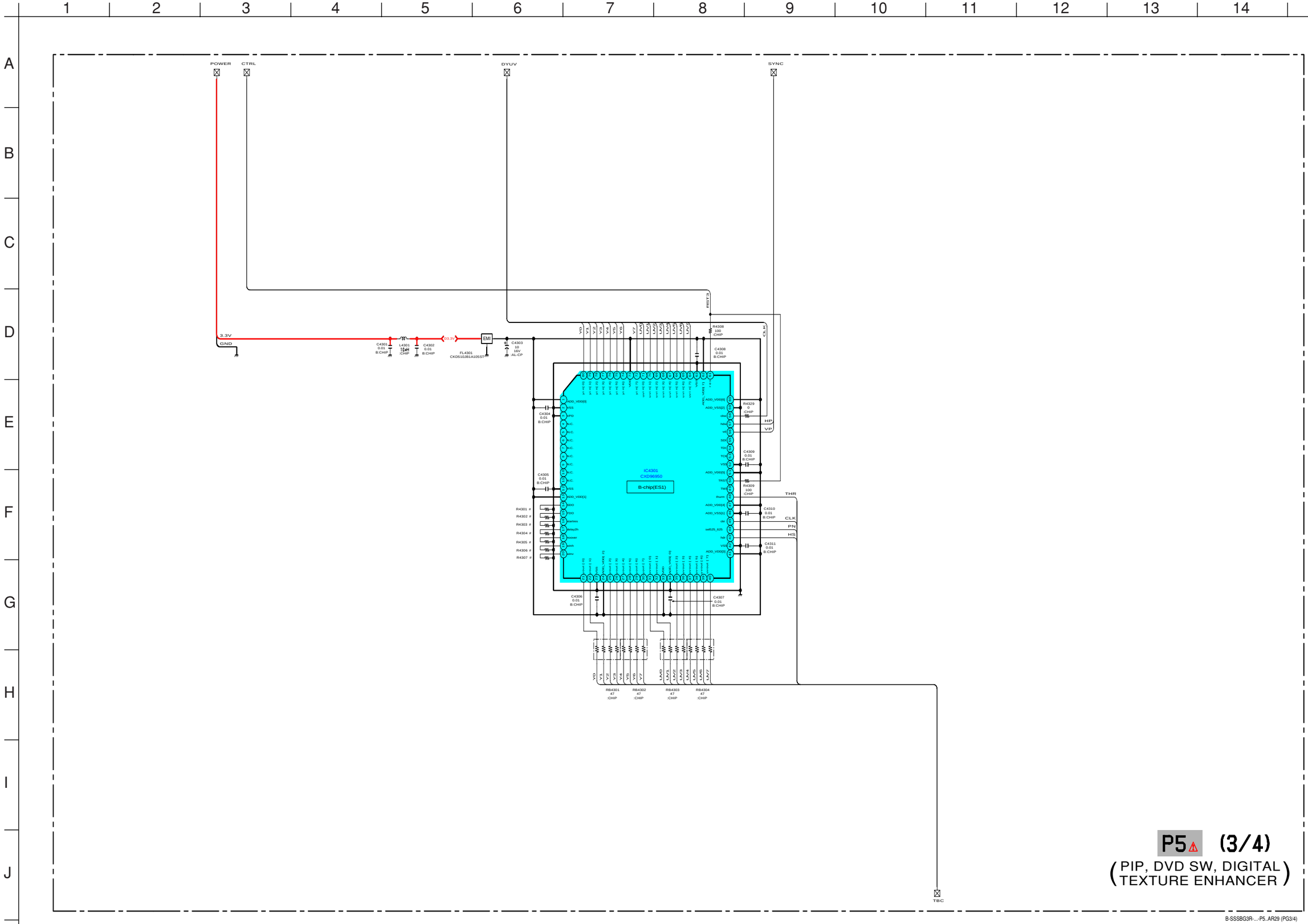
(EXCEPT KV-AR29M60/AR29N90)



KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996



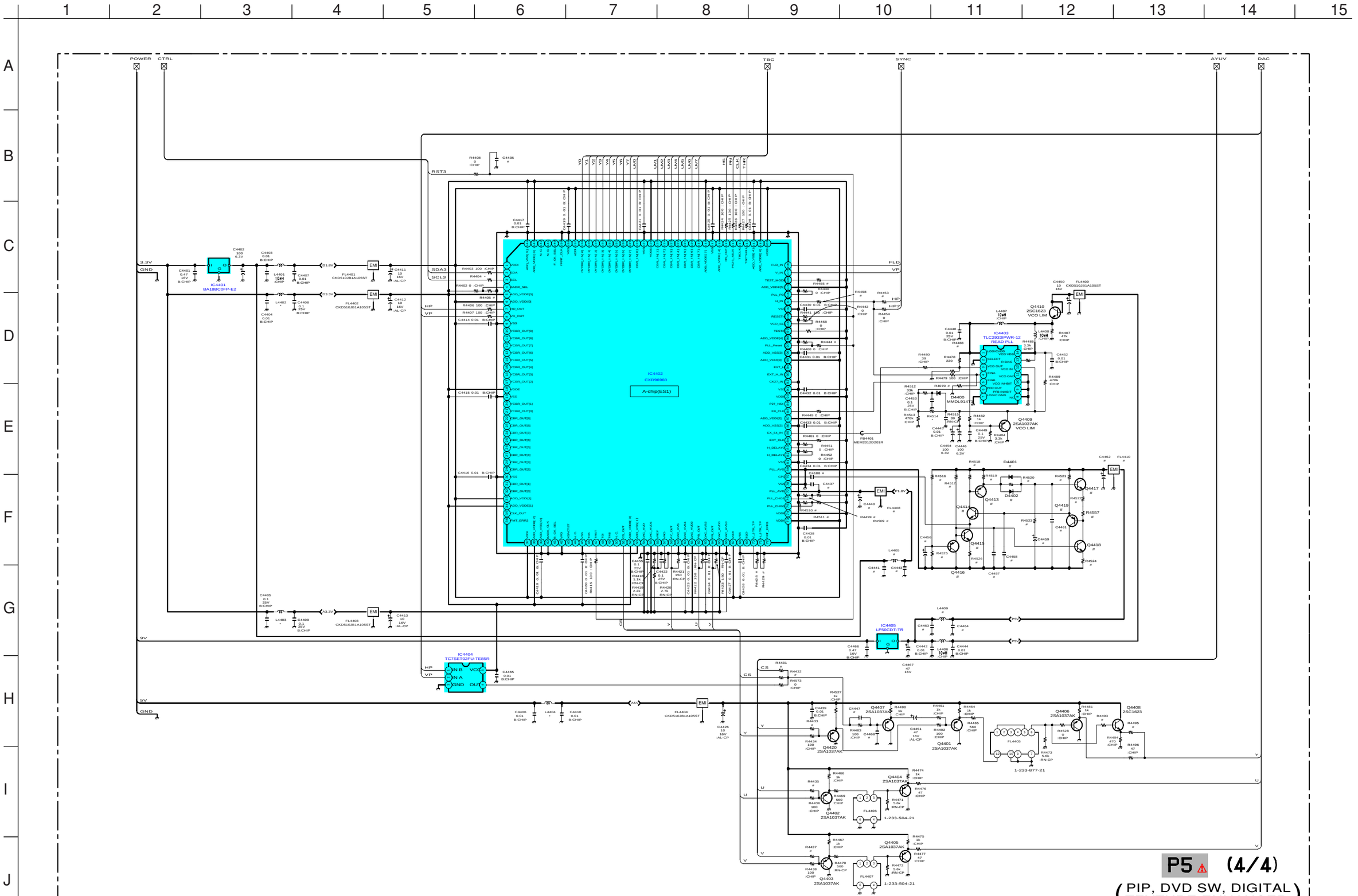
KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996



P5⚠ (3/4)
(PIP, DVD SW, DIGITAL TEXTURE ENHANCER)

B-SSSBG3R-...-P5..AR29 (PG3/4)

KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

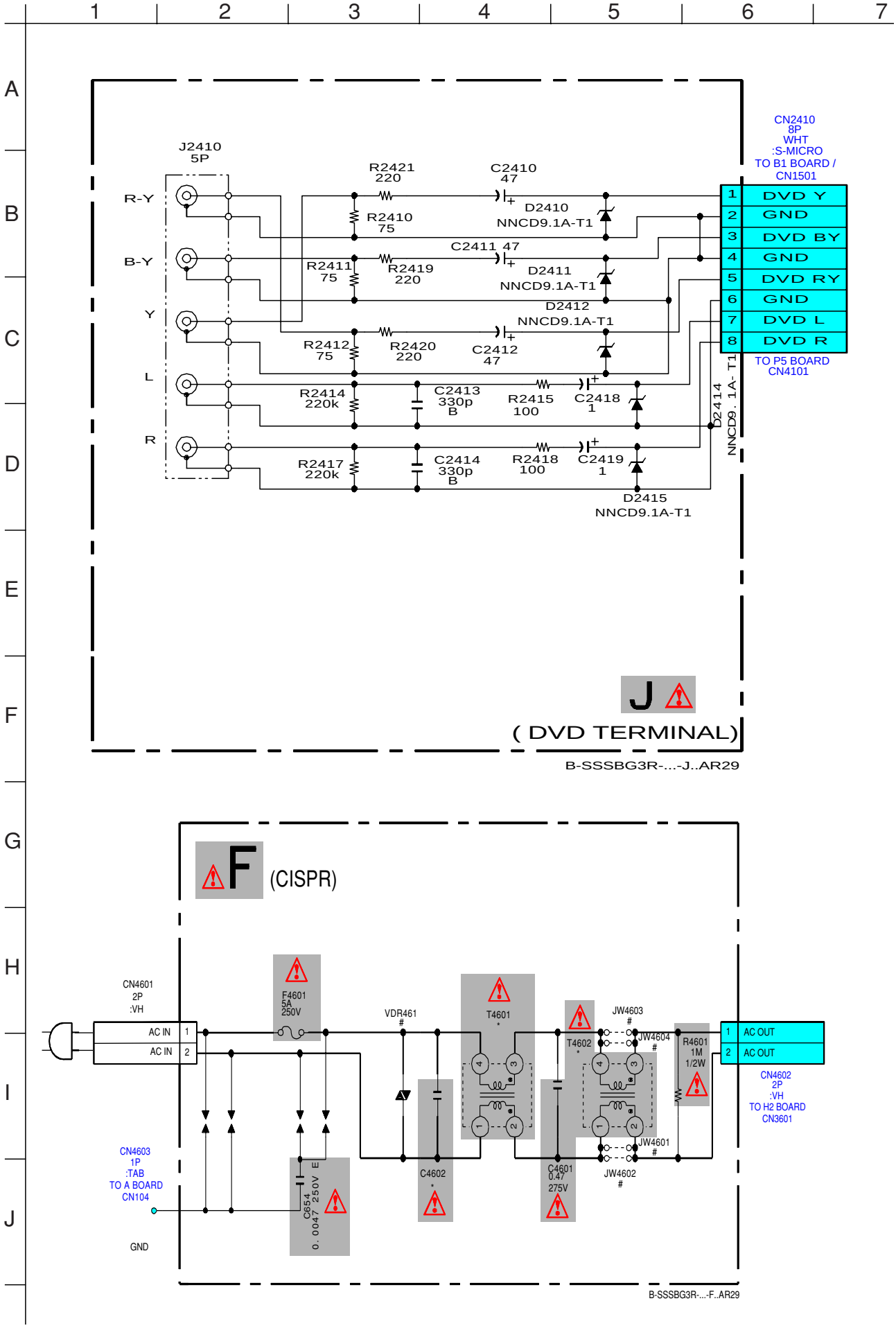


P5 ⚠ **(4/4)**

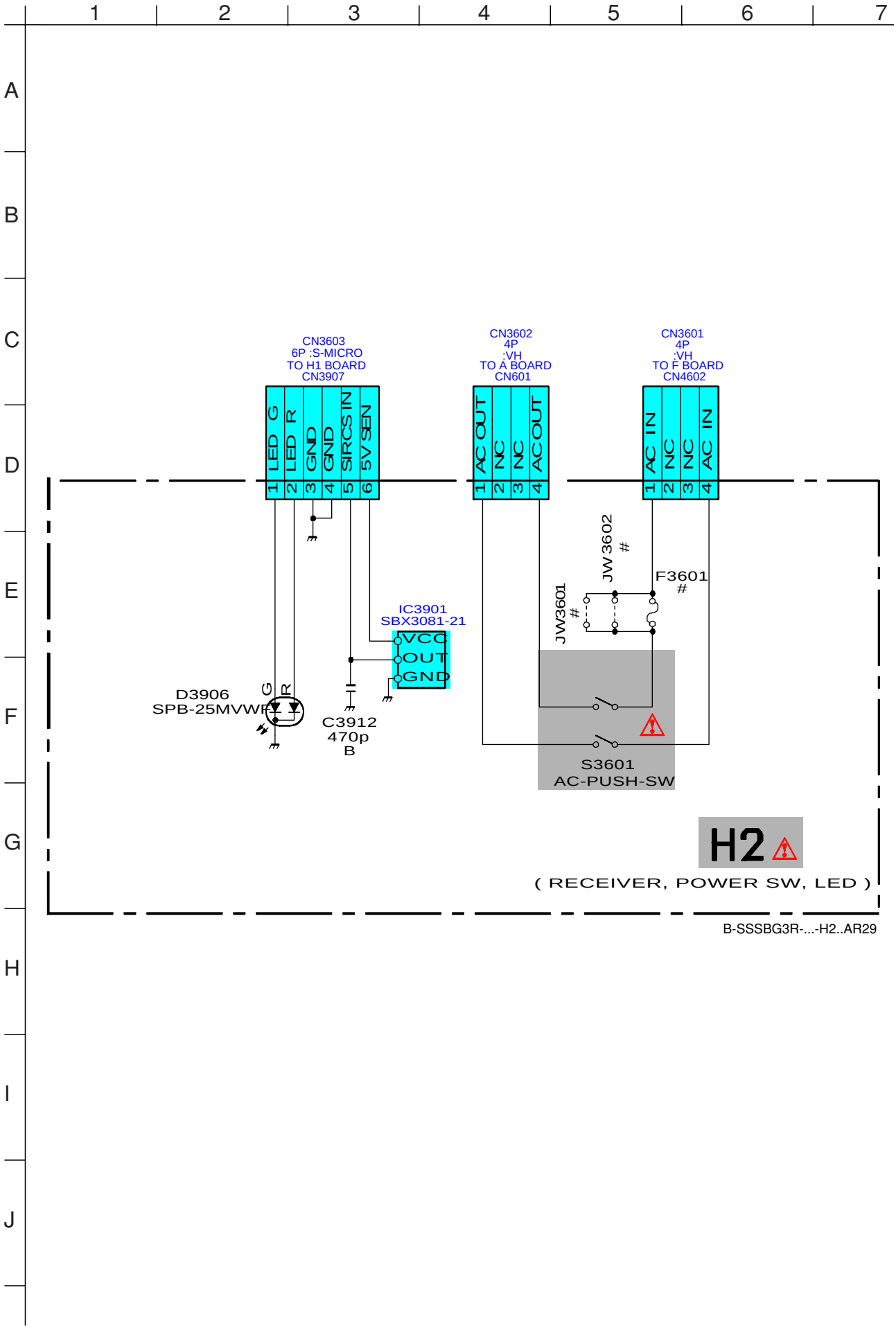
(PIP, DVD SW, DIGITAL TEXTURE ENHANCER)

B-SSSBG3R-...-P5..AR29 (PG4/4)

(8) J and F Boards Schematic Diagrams

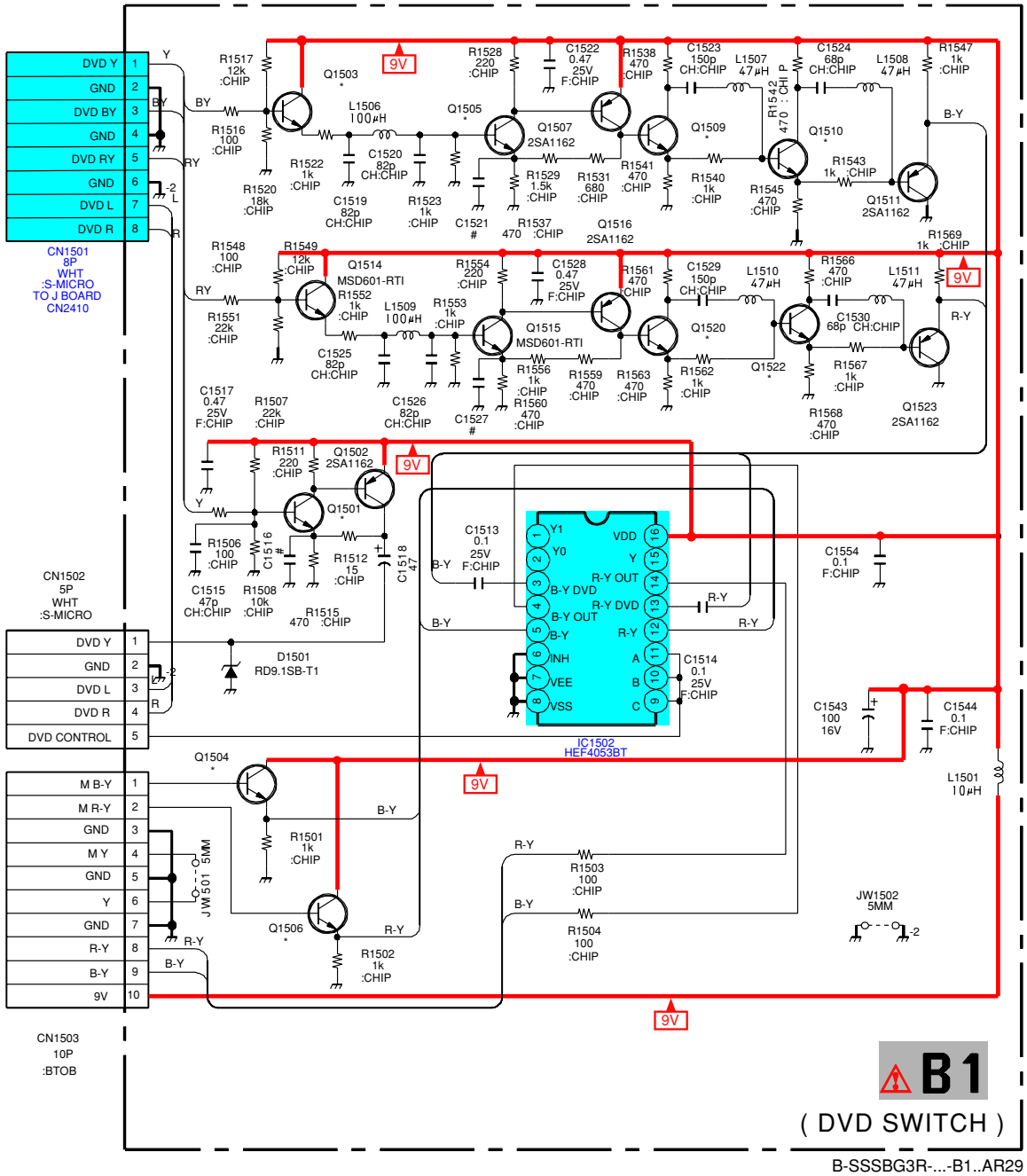


(9) H2 Board Schematic Diagram



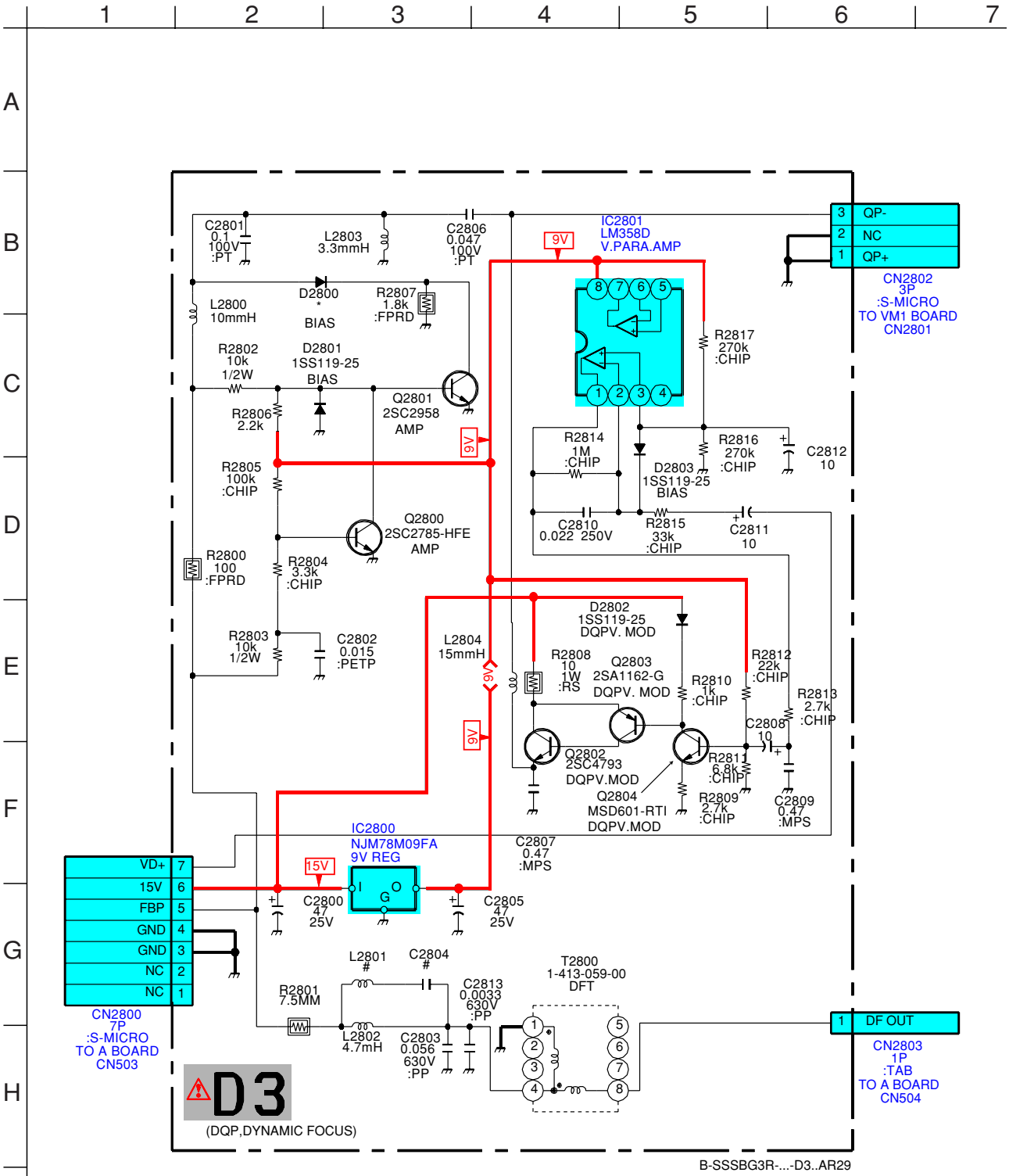
(10) B1 Board Schematic Diagram

(FOR KV-AR29M60/AR29N90)

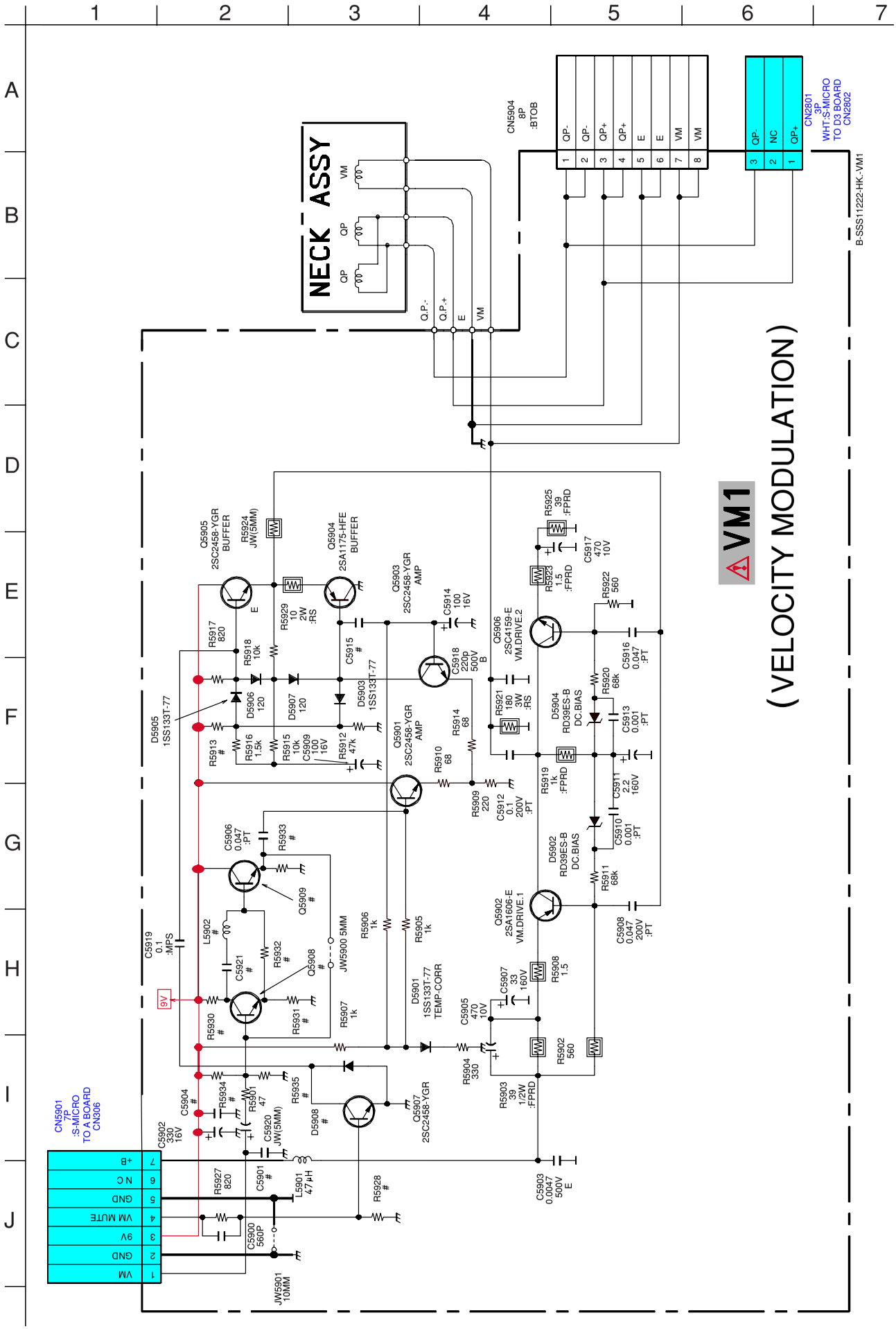


B-SSSBG3R-...-B1..AR29

(11) D3 Board Schematic Diagram



(12) VM1 Board Schematic Diagram



A Board ✻ Mark List

	KV-AR29M60 (THAILAND)	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)	KV-AR29N90 (TAIWAN)
C006	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C013	0.01	0.01	0.01	0.01 25V	0.01 25V	0.01 25V
C026	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C027	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C031	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C101	#	#	#	#	#	10
C103	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C106	#	#	#	#	#	0.047 F:CHIP
C115	#	47	#	47	47	#
C116	#	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP	#
C117	#	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP	#
C300	2.2 16V F:CHIP	#	#	#	#	2.2 16V F:CHIP
C303	0.47	0.47	0.47	0.47 63V	0.47	0.47
C305	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C311	10	4.7	10	4.7	4.7	4.7
C315	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C317	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C325	1	1	1	1 63V	1	1
C328	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C329	4.7	#	#	#	#	4.7
C330	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C335	0.1 25V B:CHIP	#	#	#	#	0.1 25V B:CHIP
C336	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C337	2.2	2.2	2.2	2.2 63V	2.2	2.2
C347	100 16V	#	#	#	#	100 16V
C348	0.1 25V B:CHIP	#	#	#	#	0.1 25V B:CHIP
C349	0.1 25V B:CHIP	#	#	#	#	0.1 25V B:CHIP
C350	0.01 F:CHIP	#	#	#	#	#
C351	10	#	#	#	#	10
C352	0.1 25V B:CHIP	#	#	#	#	0.1 25V B:CHI
C353	1	1	1	1 63V	1	1
C357	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C534	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C551	1	1	1	1 63V	1	1
C582	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C603	47 25V	47 25V	47 25V	47 25V	47 25V	10K
C613	560 450V	560 450V	560 450V	560 450V	560 450V	820 250V
C616	0.022 400V :PP	0.022 400V :PP	0.022 400V :PP	0.022 400V :PP	0.022 400V :PP	#
C617	100P 1KV SL	100P 1KV SL	100P 1KV SL	100P 1KV SL	100P 1KV SL	#
C632	2200	3300 16V	3300 16V	3300 16V	3300 16V	3300 16V
C912	0.1 25V	0.1 25V	0.1 25V	0.1 16V	0.1 16V	0.1 16V
C915	100P :CHIP	100P :CHIP	100P :CHIP	#	#	#
C916	100P :CHIP	100P :CHIP	100P :CHIP	#	#	#
C917	100P :CHIP	100P :CHIP	100P :CHIP	#	#	#
C918	100P :CHIP	100P :CHIP	100P :CHIP	#	#	#
CM604	#	#	#	2P	#	#
CN301	#	#	#	#	7P	#

A Board ✻ Mark List

	KV-AR29M60 (THAILAND)	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)	KV-AR29N90 (TAIWAN)
CN307	#	#	#	#	7P	#
CN508	1P	1P	1P	1P	1P	#
CN602	#	#	#	#	2P	2P
CN604	2P	2P	2P	#	3P	3P
D100	MMDL914T1	MMDL914T1	MMDL914T1	MMDL914T1	MMDL914T1	#
D309	UDZSTE-175.1B	UDZSTE-175.1B	UDZSTE-175.1B	RD5.1SB-T2	RD5.1SB-T2	RD5.1SB-T2
D316	RD7.5SB1-T1	RD11SB2-T1	RD7.5SB1-T1	RD11SB2-T1	RD11SB2-T1	RD7.5SB1-T1
D320	RD9.1S-B	RD9.1S-B	RD9.1S-B	RD9.1S-B	UDZSTE-179.1B	RD9.1S-B
D321	RD9.1S-B	RD9.1S-B	RD9.1S-B	RD9.1S-B	UDZSTE-179.1B	RD9.1S-B
D521	FR104-A5	FR104-A5	FR104-A5	EL1Z	EL1Z	EL1Z
D523	FR104-A5	FR104-A5	FR104-A5	EL1Z	EL1Z	EL1Z
D609	RU-1P	RU-1P	RU-1P	RU-1P	RU-1P	#
D638	11ES2	11ES2	11ES2	D1N20R	D1N20R	D1N20R
FB101	#	0 :CHIP	#	0 :CHIP	0 :CHIP	#
FB102	#	0 :CHIP	#	0 :CHIP	0 :CHIP	#
FB613	1.1UH	1.1UH	1.1UH	1.1UH	1.1UH	#
IC001	CXP750097-605S	CXP750097-605S	CXP750097-605S	CXP750097-603S	CXP750097-603S	CXP750097-604S
IC100	S-80743AL-A7-S	S-80743AL-A7-S	S-80743AL-A7-S	S-80743AL-A7-S	S-80743AL-A7-S	#
IC302	TDA9181T	#	#	#	#	TDA9183T
JR102	0 :CHIP	0 :CHIP	0 :CHIP	0 :CHIP	0 :CHIP	#
JR108	#	#	#	#	#	0 :CHIP
JR111	#	#	#	#	#	0 :CHIP
JR308	0 :CHIP	#	#	#	#	0 :CHIP
L303	100UH	#	#	#	#	100UH
L304	100UH	#	#	#	#	100UH
L511	100UH	100UH	100UH	0UH	0UH	0UH
L515	CWC	CWC	CWC	10MMH	CWC	CWC
Q002	MSD601-RT1	MSD601-RT1	MSD601-RT1	2SC2712-YG	2SC2712-YG	2SC2712-YG
Q101	MSD601-RT1	MSD601-RT1	MSD601-RT1	2SC2712-YG	2SC2712-YG	2SC2712-YG
Q302	2SC2712-YG	#	#	#	#	2SC2712-YG
Q303	2SA1162-G	#	#	#	#	2SA1162-G
Q305	2SA1162-G	#	#	#	#	2SA1162-G
Q306	2SC2712-YG	#	#	#	#	2SC2712-YG
Q307	2SC2712-YG	2SC2712-YG	2SC2712-YG	2SC2712-YG	#	2SC2712-YG
Q309	UN2213	#	#	#	#	2SC2712-YG
Q310	2SC2712-YG	#	#	#	#	2SC2712-YG
Q311	MSD601-RT1	MSD601-RT1	MSD601-RT1	2SC2712-YG	2SC2712-YG	2SC2712-YG
Q313	MSD601-RT1	MSD601-RT1	MSD601-RT1	2SC2712-YG	2SC2712-YG	2SC2712-YG
Q314	2SA1162-G	#	#	#	#	2SA1162-G
Q316	2SA1162-G	#	#	#	#	2SA1162-G
Q317	2SA1162-G	#	#	#	#	2SA1162-G
Q503	MSD601-RT1	MSD601-RT1	MSD601-RT1	2SC2712-YG	2SC2712-YG	2SC2712-YG
Q509	MSD601-RT1	MSD601-RT1	MSD601-RT1	2SC2712-YG	2SC2712-YG2	SC2712-YG
Q602	MSD601-RT1	MSD601-RT1	MSD601-RT1	2SC2712-YG	2SC2712-YG	2SC2712-YG
Q606	MSD601-RT1	MSD601-RT1	MSD601-RT1	2SC2712-YG	2SC2712-YG	2SC2712-YG
Q608	MSD601-RT1	MSD601-RT1	MSD601-RT1	2SC2712-YG	2SC2712-YG	2SC2712-YG
R006	#	#	#	#	#	39K :CHIP

A Board ✻ Mark List

	KV-AR29M60 (THAILAND)	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)	KV-AR29N90 (TAIWAN)
R007	#	#	#	#	#	220 :CHIP
R009	#	#	#	#	#	4.7K :CHIP
R017	#	1K :CHIP	#	1K :CHIP	1K :CHIP	#
R028	10K :CHIP	10K :CHIP	10K :CHIP	10K :CHIP	10K :CHIP	1K :CHIP
R030	#	#	#	#	#	100 :CHIP
R036	#	100 :CHIP	#	100 :CHIP	100 :CHIP	#
R037	100 :CHIP	100 :CHIP	100 :CHIP	100 :CHIP	100 :CHIP	15K :CHIP
R038	1K	1K	1K	1K	1K	#
R101	100 :CHIP	100 :CHIP	100 :CHIP	100 :CHIP	100 :CHIP	#
R102	100 :CHIP	100 :CHIP	100 :CHIP	100 :CHIP	100 :CHIP	#
R103	#	#	#	#	#	100 :CHIP
R104	#	#	#	#	#	100 :CHIP
R106	#	#	#	#	#	1K :CHIP
R114	#	#	#	#	#	4.7K :CHIP
R115	#	#	#	#	#	4.7K :CHIP
R311	470 :CHIP	#	#	#	#	470 :CHIP
R312	390 :CHIP	#	#	#	#	390 :CHIP
R313	330 :CHIP	#	#	#	#	330 :CHIP
R314	27K :CHIP	#	#	#	#	27K :CHIP
R316	330 :CHIP	#	#	#	#	330 :CHIP
R317	56K :CHIP	#	#	#	#	56K :CHIP
R318	390 :CHIP	#	#	#	#	390 :CHIP
R323	1.5K :CHIP	#	#	#	#	1.5K :CHIP
R324	1.5K :CHIP	#	#	#	#	1.5K :CHIP
R366	10K :CHIP	#	#	#	#	10K :CHIP
R367	10K :CHIP	#	#	#	#	10K :CHIP
R371	27K :CHIP	#	#	#	#	27K :CHIP
R372	56K :CHIP	#	#	#	#	56K :CHIP
R375	#	#	#	#	100 :CHIP	#
R378	1.5K :CHIP	#	#	#	#	1.5K :CHIP
R379	10M :CHIP	#	#	#	#	10M :CHIP
R381	0 :CHIP	#	#	#	#	0 :CHIP
R382	4.7K :CHIP	#	#	#	#	#
R383	1K :CHIP	#	#	#	#	1K :CHIP
R384	470 :CHIP	#	#	#	#	470 :CHIP
R385	150 :CHIP	#	#	#	#	150 :CHIP
R391	0 :CHIP	#	#	#	#	0 :CHIP
R526	#	#	#	8.2K :CHIP	8.2K :CHIP / 75K :CHIP	8.2K :RN
R620	0.033 630V :PP	0.033 630V :PP	0.033 630V :PP	0.033 630V :PP	0.033 630V :PP	0.027 400V :PP
R635	82K 3W :RS	82K 3W :RS	82K 3W :RS	82K 3W :RS	82K 3W :RS	#
R636	15K 3W :RS	15K 3W :RS	15K 3W :RS	15K 3W :RS	15K 3W :RS	4.7K 3W :RS
R637	82K 3W :RS	82K 3W :RS	82K 3W :RS	82K 3W :RS	82K 3W :RS	#
R646	15K 3W :RS	15K 3W :RS	15K 3W :RS	15K 3W :RS	15K 3W :RS	4.7K 3W :RS
R682	0.1	LINK IC	LINK IC	LINK IC	LINK IC	0.1
T503	#	NX-4009	NX-4009	NX-4009	NX-4009	NX-4009
T601	CLF	CLF	CLF	TLF	TLF	#
TU101	BTF-WG441	BTF-WG442	BTF-WG441	BTF-WG441	BTF-WG442	BTF-WA421
VDR600	ERZV14D621	ERZV14D621	ERZV14D62 1	ERZV14D621	ERZV14D621	TNR14V271K660

B1 Board ✲ Mark List

	KV-AR29M60 (THAILAND)	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)	KV-AR29N90 (TAIWAN)
Q1501	2SC2712-YG	#	#	#	#	MSD601-RT1
Q1503	2SC2712-YG	#	#	#	#	MSD601-RT1
Q1504	2SC2712-YG	#	#	#	#	MSD601-RT1
Q1505	2SC2712-YG	#	#	#	#	MSD601-RT1
Q1506	2SC2712-YG	#	#	#	#	MSD601-RT1
Q1509	2SC2712-YG	#	#	#	#	MSD601-RT1
Q1510	2SC2712-YG	#	#	#	#	MSD601-RT1
Q1514	2SC2712-YG	#	#	#	#	MSD601-RT1
Q1515	2SC2712-YG	#	#	#	#	MSD601-RT1
Q1520	2SC2712-YG	#	#	#	#	MSD601-RT1
Q1522	2SC2712-YG	#	#	#	#	MSD601-RT1

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

C6 Board ✲ Mark List

	KV-AR29M60 (THAILAND)	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)	KV-AR29N90 (TAIWAN)
C4602	#	#	#	100K :RN	100K :RN	#

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

H1 Board ✲ Mark List

	KV-AR29M60 (THAILAND)	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)	KV-AR29N90 (TAIWAN)
C4602	1	1	1	1.0 63V	1	1

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

D3 Board ✲ Mark List

	KV-AR29M60 (THAILAND)	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)	KV-AR29N90 (TAIWAN)
D2800	FR104-A5	FR104-A5	FR104-A5	EL1Z	EL1Z	EL1Z

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

F Board ✲ Mark List

	KV-AR29M60 (THAILAND)	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)	KV-AR29N90 (TAIWAN)
T4601	CLF	CLF	CLF	CLF	TLF	TLF
T4602	CLF	CLF	CLF	TLF	TLF	TLF

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

B10 Board ✲ Mark List

	KV-AR29M60 (THAILAND)	KV-AR29N90 (TAIWAN)
C6244	0.0047 B:CHIP	0.0056 B:CHIP
C6245	0.0047 B:CHIP	0.0056 B:CHIP
CN1402	#	3P
D3301	MMDL914T1	MA111-TX
D3302	MMDL914T1	MA111-TX
D6211	MMDL914T1	MA111-TX
D6212	MMDL914T1	MA111-TX

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

P5 Board ✲ Mark List

	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)
C4002	0.47 16V B:CHIP	#	0.47 16V B:CHIP	0.47 16V B:CHIP
C4003	47 16V	#	47 16V	47 16V
C4004	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4005	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4006	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4007	10 16V :CHIP	#	10 16V :CHIP	10 16V :CHIP
C4008	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4009	10P :CHIP	#	10P :CHIP	10P :CHIP
C4010	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4011	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4012	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4013	10P :CHIP	#	10P :CHIP	10P :CHIP
C4014	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4015	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4016	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4017	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4018	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4019	10 16V :CHIP	#	10 16V :CHIP	10 16V :CHIP
C4020	10 16V :CHIP	#	10 16V :CHIP	10 16V :CHIP
C4021	10 16V :CHIP	#	10 16V :CHIP	10 16V :CHIP
C4022	10 16V :CHIP	#	10 16V :CHIP	10 16V :CHIP
C4023	10 16V :CHIP	#	10 16V :CHIP	10 16V :CHIP
C4024	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4025	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4027	100P :CHIP	#	100P :CHIP	100P :CHIP
C4028	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4029	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4030	100P :CHIP	#	100P :CHIP	100P :CHIP
C4031	4.7 10V F:CHIP	#	4.7 10V F:CHIP	4.7 10V F:CHIP
C4032	4.7 10V F:CHIP	#	4.7 10V F:CHIP	4.7 10V F:CHIP
C4034	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4035	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4036	0.1 25V B:CHIP	#	0.1 25V B:CHIP	0.1 25V B:CHIP
C4141	1 16V	#	1 16V	1 16V
C4142	1 16V	#	1 16V	1 16V
C4143	1 16V	#	1 16V	1 16V
C4191	47P :CHIP	#	47P :CHIP	47P :CHIP
C4193	22 6.3V	#	22 6.3V	22 6.3V
C4194	0.1 25V	#	0.1 25V	0.1 25V
C5001	47 10V	47 10V	#	#
C5002	0.1 25V	0.1 25V	#	#
C5003	220P	220P	#	#
C5004	270P	270P	#	#
C5005	82P	82P	#	#
C5006	0.1 25V	0.1 25V	#	#
C5007	270P	270P	#	#
C5008	82P	82P	#	#
C5009	220P	220P	#	#
C5010	100P	100P	#	#
C5011	100P	100P	#	#
C5012	470P	470P	#	#
C5013	470P	470P	#	#
D4003	UDZSTE-179.1B	#	UDZSTE-179.1B	UDZSTE-179.1B
D4102	MMDL914T1	#	#	MA111-TX
D4400	MMDL914T1	MMDL914T1	MA111-TX	MA111-TX
D4403	0 :CHIP	MMDL914T1	MA111-TX	MA111-TX
D4404	#	MMDL914T1	MA111-TX	MA111-TX
D4405	#	MMDL914T1	MA111-TX	MA111-TX
FL4105	0UH	#	0UH	0UH
FL4107	0UH	#	0UH	0UH
FL4108	0UH	#	0UH	0UH
FL4109	0UH	#	0UH	0UH
FL4110	0UH	#	0UH	0UH
IC4101	BA033FP-E2	#	BA033FP-E2	BA033FP-E2
IC4103	SDA9588XB23	#	SDA9588XB23	SDA9588XB23
IC5001	HEF4053BT	HEF4053BT	#	#
IC5002	TC7SET02FU(TE85R)	TC7SET02FU(TE85R)	#	#
JR5001	#	#	0 :CHIP	0 :CHIP
JR5002	#	#	0 :CHIP	0 :CHIP
JR5003	#	#	0 :CHIP	0 :CHIP

P5 Board ✻ Mark List

	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)
L4106	10UH	#	10UH	10UH
L4107	10UH	#	10UH	10UH
L4108	22UH	#	22UH	22UH
L5001	10UH	10UH	#	#
L5002	10UH	10UH	#	#
Q4101	2SC1623-L5L6	#	2SC1623-L5L6	2SC1623-L5L6
Q4102	2SA1037AK-T146	#	2SA1037AK-T146	2SA1037AK-T146
Q4113	2SA1037AK-T146	#	2SA1037AK-T1462SA1037AK-T146	
Q4115	2SA1037AK-T146	#	2SA1037AK-T1462SA1037AK-T146	
Q4118	2SC1623-L5L6	#	2SC1623-L5L62SC1623-L5L6	
Q4119	2SA1037AK-T146	#	2SA1037AK-T1462SA1037AK-T146	
Q4120	2SA1037AK-T146	#	2SA1037AK-T146	2SA1037AK-T146
Q4121	2SA1037AK-T146	#	2SA1037AK-T146	2SA1037AK-T146
Q4125	2SA1037AK-T146	#	2SA1037AK-T146	2SA1037AK-T146
Q4126	2SA1037AK-T146	#	2SA1037AK-T146	2SA1037AK-T146
Q4127	2SA1037AK-T146	#	2SA1037AK-T146	2SA1037AK-T146
Q4128	2SA1037AK-T146	#	2SA1037AK-T146	2SA1037AK-T146
Q5001	2SA1037AK-T146	2SA1037AK-T146	#	#
Q5002	2SA1037AK-T146	2SA1037AK-T146	#	#
Q5003	2SA1037AK-T146	2SA1037AK-T146	#	#
Q5004	2SC1623-L5L6	2SC1623-L5L6	#	#
Q5005	2SA1037AK-T146	2SA1037AK-T146	#	#
Q5006	2SC1623-L5L6	2SC1623-L5L6	#	#
Q5007	2SA1037AK-T146	2SA1037AK-T146	#	#
Q5008	2SC1623-L5L6	2SC1623-L5L6	#	#
Q5011	2SA1037AK-T146	2SA1037AK-T146	#	#
Q5012	2SC1623-L5L6	2SC1623-L5L6	#	#
Q5014	2SA1037AK-T146	2SA1037AK-T146	#	#
Q5015	2SC1623-L5L6	2SC1623-L5L6	#	#
Q5016	2SC1623-L5L6	2SC1623-L5L6	#	#
R4004	15 2W :RS	#	15 2W :RS	15 2W :RS
R4005	100 :CHIP	#	100 :CHIP	100 :CHIP
R4006	22K :CHIP	#	22K :CHIP	22K :CHIP
R4007	10K :CHIP	#	10K :CHIP	10K :CHIP
R4008	220 :CHIP	#	220 :CHIP	220 :CHIP
R4009	15 :CHIP	#	15 :CHIP	15 :CHIP
R4010	470 :CHIP	#	470 :CHIP	470 :CHIP
R4011	100 :CHIP	#	100 :CHIP	100 :CHIP
R4012	100 :CHIP	#	100 :CHIP	100 :CHIP
R4013	10K :CHIP	#	10K :CHIP	10K :CHIP
R4014	10K :CHIP	#	10K :CHIP	10K :CHIP
R4015	0 :CHIP	#	0 :CHIP	0 :CHIP
R4016	330 :CHIP	#	330 :CHIP	330 :CHIP
R4017	1K :CHIP	#	1K :CHIP	1K :CHIP
R4018	100 :CHIP	#	100 :CHIP	100 :CHIP
R4019	100 :CHIP	#	100 :CHIP	100 :CHIP
R4020	1.5K :CHIP	#	1.5K :CHIP	1.5K :CHIP
R4021	1.5K :CHIP	#	1.5K :CHIP	1.5K :CHIP
R4022	470 :CHIP	#	470 :CHIP	470 :CHIP
R4023	100 :CHIP	#	100 :CHIP	100 :CHIP
R4024	470 :CHIP	#	470 :CHIP	470 :CHIP
R4025	1K :CHIP	#	1K :CHIP	1K :CHIP
R4026	1K :CHIP	#	1K :CHIP	1K :CHIP
R4027	820 :CHIP	#	820 :CHIP	820 :CHIP
R4028	820 :CHIP	#	820 :CHIP	820 :CHIP
R4029	1.2K :CHIP	#	1.2K :CHIP	1.2K :CHIP
R4030	470 :CHIP	#	470 :CHIP	470 :CHIP
R4031	470 :CHIP	#	470 :CHIP	470 :CHIP
R4032	470 :CHIP	#	470 :CHIP	470 :CHIP
R4033	100 :CHIP	#	100 :CHIP	100 :CHIP
R4034	100 :CHIP	#	100 :CHIP	100 :CHIP
R4035	100K :CHIP	#	100K :CHIP	100K :CHIP
R4036	1M :CHIP	#	1M :CHIP	1M :CHIP
R4037	100 :CHIP	#	100 :CHIP	100 :CHIP
R4038	10K :CHIP	#	10K :CHIP	10K :CHIP
R4039	47K :CHIP	#	47K :CHIP	47K :CHIP
R4040	47K :CHIP	#	47K :CHIP	47K :CHIP
R4041	47K :CHIP	#	47K :CHIP	47K :CHIP
R4042	47K :CHIP	#	47K :CHIP	47K :CHIP
R4043	100 :CHIP	#	100 :CHIP	100 :CHIP

P5 Board ✲ Mark List

	KV-AR29M64 (THAILAND)	KV-AR29M68 (THAILAND)	KV-AR29M64/M94 (INDIA)	KV-AR29M66 (GE)
R4044	100 :CHIP	#	100 :CHIP	100 :CHIP
R4045	100 :CHIP	#	100 :CHIP	100 :CHIP
R4046	1K :CHIP	#	1K :CHIP	1K :CHIP
R4047	1K :CHIP	#	1K :CHIP	1K :CHIP
R4048	1K :CHIP	#	1K :CHIP	1K :CHIP
R4049	100 :CHIP	#	100 :CHIP	100 :CHIP
R4050	100 :CHIP	#	100 :CHIP	100 :CHIP
R4051	100 :CHIP	#	100 :CHIP	100 :CHIP
R4095	1K :CHIP	#	1K :CHIP	1K :CHIP
R4096	1K :CHIP	#	1K :CHIP	1K :CHIP
R4142	0 :CHIP	#	0 :CHIP	0 :CHIP
R5001	100K	100K	#	#
R5002	100K	100K	#	#
R5003	1K	1K	#	#
R5004	2.2K	2.2K	#	#
R5005	100	100	#	#
R5006	240	240	#	#
R5007	100	100	#	#
R5008	100	100	#	#
R5009	220	220	#	#
R5010	2.2K	2.2K	#	#
R5011	100	100	#	#
R5012	470	470	#	#
R5013	1.8K	1.8K	#	#
R5014	220	220	#	#
R5015	3.3K	3.3K	#	#
R5016	470	470	#	#
R5017	470	470	#	#
R5018	470	470	#	#
R5021	10K	10K	#	#
R5023	1.8K	1.8K	#	#
R5024	220	220	#	#
R5025	3.3K	3.3K	#	#
R5026	470	470	#	#
R5027	470	470	#	#
R5028	470	470	#	#
R5031	220	220	#	#
R5032	2.2K	2.2K	#	#
R5033	100	100	#	#
R5034	470K	470K	#	#
R5035	10K	10K	#	#
R5036	470	470	#	#
R5037	100	100	#	#
R5038	680	680	#	#
R5039	1K	1K	#	#
R5040	680	680	#	#
R5041	1K	1K	#	#
R5042	100	100	#	#
X4101	VIBRATOR CRYSTAL	#	VIBRATOR CRYSTAL	VIBRATOR CRYSTAL

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

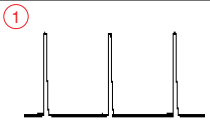
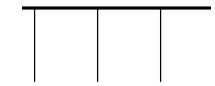
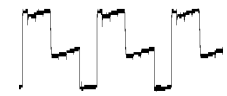
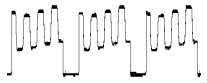
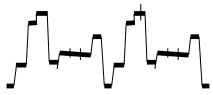
B8 Board ✲ Mark List

	KV-AR29M64 (THAILAND)	KV-AR29M66 (GE)	KV-AR29M64/M94 (INDIA)	KV-AR29M68 (THAILAND)
C1430	0.1 25V	0.1 25V	0.1 25V	#
C1438	470 B:CHIP	470 B:CHIP	470 B:CHIP	#
C1450	470 B:CHIP	470 B:CHIP	470 B:CHIP	#
C1451	470 B:CHIP	470 B:CHIP	470 B:CHIP	#
C1452	470 B:CHIP	470 B:CHIP	470 B:CHIP	#
C1453	100 16V	100 16V	100 16V	#
C1454	47	47	47	#
C1455	47	47	47	#
C1456	100 16V	100 16V	100 16V	#
C1458	100 16V	100 16V	100 16V	#
C3401	4.7 10V F:CHIP	4.7 10V F:CHIP	4.7 10V F:CHIP	#
C3402	4.7 10V F:CHIP	4.7 10V F:CHIP	4.7 10V F:CHIP	#
C3403	4.7 10V F:CHIP	4.7 10V F:CHIP	4.7 10V F:CHIP	#
C3404	4.7 10V F:CHIP	4.7 10V F:CHIP	4.7 10V F:CHIP	#
C3405	10	10	10	#
C6223	1	1	1 63V	1
C6241	10	10	#	10
IC3401	NJM2283M-TE1	NJM2283M-TE1	NJM2283M-TE1	#
JR1401	0 :CHIP	0 :CHIP	0 :CHIP	#
JR1412	#	100 :CHIP	100 :CHIP	#
JR3401	#	#	#	0 :CHIP
JR3402	#	#	#	0 :CHIP
JR3403	0 :CHIP	0 :CHIP	0 :CHIP	#
L1400	10UH	10UH	10UH	#
L1403	10UH	10UH	10UH	#
L1405	10UH	10UH	10UH	#
L1406	10UH	10UH	10UH	#
L1407	10UH	10UH	10UH	#
Q1401	2SC2712-YG	2SC2712-YG	2SC2712-YG	#
Q1405	#	2SC2712-YG	2SC2712-YG	#
Q1410	2SC2712-YG	2SC2712-YG	2SC2712-YG	#
R1401	180 :CHIP	180 :CHIP	180 :CHIP	#
R1402	220 :CHIP	220 :CHIP	220 :CHIP	#
R1419	100 :CHIP	100 :CHIP	100 :CHIP	#
R1420	10K :CHIP	10K :CHIP	10K :CHIP	#
R1423	100 :CHIP	100 :CHIP	100 :CHIP	#
R1434	100 :CHIP	100 :CHIP	100 :CHIP	#
R1462	100 :CHIP	100 :CHIP	100 :CHIP	#
R1474	0 :CHIP	0 :CHIP	0 :CHIP	#
R1494	180 :CHIP	180 :CHIP	180 :CHIP	#
R1495	220 :CHIP	220 :CHIP	220 :CHIP	#
R1508	#	100	100	#
R1509	#	470	470	#
R3401	100 :CHIP	100 :CHIP	100 :CHIP	#
R3402	100 :CHIP	100 :CHIP	100 :CHIP	#
R3403	1K :CHIP	1K :CHIP	1K :CHIP	#
R3406	100 :CHIP	100 :CHIP	100 :CHIP	#
R3407	100 :CHIP	100 :CHIP	100 :CHIP	#
TU101	BTF-LG434	BTF-LG434	BTF-LG434	#

Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

5-4. VOLTAGE LIST AND WAVEFORM

A BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC001	1	0
	2	0
	3	0.3
	4	0.3
	5	4.9
	6	4.9
	7	3.8
	8	4.7
	9	0
	①  5.120Vp-p	
	10	4.7
	②  4.880Vp-p	
	11	(0)[4.9]
	12	0
	13	(0)[2.1]
	14	2.1
	③ PAL 3.760Vp-p	
	③ NTSC 3.520Vp-p	
	15	4.9
	16	4.9
	17	0
	18	4.4
	19	(1.9)[2.5]
	20	1.6
	21	4.9
	22	0
	23	4.9
	24	0.3
	25	4.8
	26	4.9
	27	4.8
	28	4.9
	29	4.8
	30	0
	31	0
	32	0
	33	4.9
	34	0
	35	0
	36	(2.3)[2.5]
	37	2.5
	38	4.8
	39	4.9
	40	0
	41	0
	42	0.3
	43	0
	44	4.9
	45	4.9
	46	(4.3)[4.6]
	47	4.9
	48	4.4
	49	0
	50	(1.6)[2.2]
	51	0
	52	(4.7)[0]
IC002	1	0
	2	4.9
	3	4.9
	4	7.2
	5	4.9
	6	0
	7	0
IC003	1	0
	2	0
	3	0
	4	0
	5	4.9
	6	4.9
	7	0
	8	4.9
IC100	1	4.8
	2	4.8
	3	0
IC301	1	3.3
	2	5.0
	3	(0)[1.2]
	4	5.0
	5	4.8
	6	4.3
	7	0
	8	3.8
	9	5.0
	10	3.7
	11	5.0
	12	0
	13	3.6
	14	2.4
	15	3.5
	16	3.4
	⑬ 1.3Vp-p	
	17	5.4
	18	7.6
	19	0.7
	20	3.5
	21	*
	22	3.8
	23	3.5
	24	1.9
	⑩ PAL 4.000Vp-p	
	⑩ NTSC 4.160Vp-p	
	25	1.9
	⑪  3.760Vp-p	
	26	1.9
	⑫  4.080Vp-p	
	27	0
	28	4.4
	29	4.4
	30	4.4
	31	8.7
	32	4.1
	⑥ 0.2Vp-p	
	33	4.1
	⑤  1.1Vp-p	
	34	3.5
	④ 880.0mVp-p	
	35	8.7
	36	4.4
	37	(4.6)[4.4]
	38	4.6
	39	4.6
	⑨ 920.0mVp-p	
	40	5.1
	⑧ 1.160Vp-p	
	41	5.1
	⑦ PAL 1.520Vp-p	
	⑦ NTSC 1.400Vp-p	

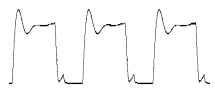
A BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
	42	0
	43	5.0
	44	4.7
	45	6.6
	46	5.0
	47	8.8
	48	0
	49	4.3
	50	0
	51	(0)[2.7]
	52	(3.1)[0]
IC302	1	(0.3)[0.6]
	2	0
	3	0.5
	4	0
	5	0.1
	6	0
	7	2.9
	8	0
	9	0
	10	(0)[2.2]
	11	2.1
	12	(0)[2.2]
	13	0
	14	0.2
	15	0
	16	0
IC502	1	0.9
	2	3.5
	3	(0)[1.8]
	4	0
	5	2.9
	6	2.4
	7	6.9
	8	8.9
IC503	1	1.5
	2	13.1
	3	13.3
	4	14.7
	5	0.5
	6	13.2
	7	1.5
IC601	1	1.9
	2	0
	3	187.7
	4	16.9
	5	0
IC602	1	76.3
	2	68.5
	3	(*)[0]
IC603	I	12.0
	G	0
	O	8.9
IC604	I	7.8
	G	0
	O	0
PH600	1	72.5
	2	71.6
	3	3.3
	4	16.9
Q001	B	4.9
	C	0
	E	(0.8)[1.1]
Q002	B	0
	C	4.9
	E	0
Q101	B	2.5
	C	8.8
	E	1.9

Ref	Pin No.	Voltage[v]
Q301	B	12.0
	C	0
	E	11.8
Q302	B	0.5
	C	8.7
	E	0
Q303	B	8.7
	C	0
	E	8.8
Q304	B	3.5
	C	0
	E	4.2
Q305	B	8.7
	C	0
	E	8.8
Q306	B	0.5
	C	8.6
	E	0
Q308	B	3.6
	C	0.3
	E	0.8
Q309	B	2.9
	C	0
	E	0
Q310	B	0.4
	C	2.2
	E	0
Q311	B	0
	C	8.9
	E	0
Q312	B	5.1
	C	0
	E	6.6
Q313	B	0
	C	11.8
	E	0
Q314	B	0.17
	C	0
	E	2.2
Q315	B	0
	C	3.5
	E	0
Q316	B	4.1
	C	0
	E	4.7
Q317	B	4.1
	C	0
	E	4.7
Q501	B	3.4
	C	0
	E	4.0
Q502	B	4.2
	C	2.3
	E	4.0
Q503	B	0
	C	3.6
	E	0
Q505	S	0
	G	*
	D	*
Q506	B	0.5
	C	*
	E	0
Q507	B	12.5
	C	0.3
	E	13.1
Q509	B	0.6
	C	0
	E	0

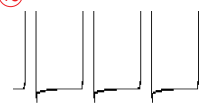
Ref	Pin No.	Voltage[v]
Q511	B	0.8
	C	0
	E	0
Q600	B	0
	C	12.2
	E	0
Q601	B	0.7
	C	0.3
	E	0.3
Q602	B	0.1
	C	16.8
	E	0.1
Q603	B	16.8
	C	3.3
	E	16.9
Q604	B	133.8
	C	0
	E	134.0
Q605	S	0.6
	G	0.2
	D	(266.3)[257]
Q606	B	0.1
	C	0.2
	E	0.6
Q607	B	1.4
	C	(0.8)[1.1]
	E	1.1
Q608	B	0
	C	0.8
	E	0

(14)



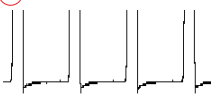
170.0Vp-p

(15) PAL



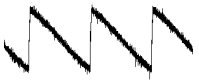
326.0Vp-p

(15) NTSC



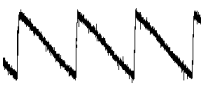
358.0Vp-p

(16) PAL



2.440Vp-p

(16) NTSC

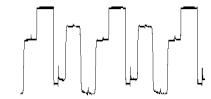
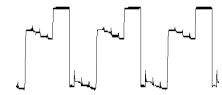


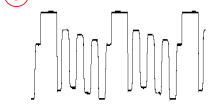
2.280Vp-p

B10 BOARD VOLTAGE LIST (KV-AR29M60/AR29N90)

Ref	Pin No.	Voltage[v]
IC1401	1	3.8
	2	3.9
	3	3.8
	4	3.9
	5	3.8
	6	8.2
	7	3.8
	8	3.9
	9	3.8
	10	3.9
	11	3.8
	12	8.2
	13	3.9
	14	3.9
	15	3.8
	16	3.9
	17	3.8
	18	8.1
	19	4.3
	20	4.4
	21	0
	22	3.9
	23	3.8
	24	3.9
	25	3.8
	26	3.9
	27	3.8
	28	3.9
	29	3.8
	30	3.8
	31	3.9
	32	3.9
	33	3.8
	34	0
	35	3.8
	36	0
	37	3.8
	38	3.9
	39	3.9
	40	3.8
	41	3.8
	42	3.9
	43	3.7
	44	8.8
	45	3.8
	46	3.9
	47	3.9
	48	3.8
IC1402	1	4.9
	2	2.5
	3	2.5
	4	0
	5	8.8
	6	5.0
	7	2.5
	8	2.5
IC1404	I	12.1
	G	0
	O	8.8
IC3200	1	4.4
	2	4.4
	3	4.4
	4	0
	5	4.4
	6	4.4
	7	4.4
	8	8.9
IC3202	1	4.4
	2	4.4
	3	4.4
	4	0
	5	4.4
	6	4.4
	7	4.4
	8	8.9
IC3204	1	4.5
	2	4.5
	3	4.4
	4	0
	5	4.4
	6	4.5
	7	4.5
	8	8.8
IC3205	1	8.8
	2	0.1
	3	0.4
	4	0.4
	5	0.4
	6	0.4
	7	0.3
	8	0
	9	0.1
	10	2.4
	11	0
	12	0
	13	8.7
	14	4.4
	15	4.4
	16	8.8
IC3301	1	2.7
	2	2.6
	3	3.0
	4	3.0
	5	0.4
	6	0
	7	0
	8	0
	9	4.5
	10	4.5
	11	4.5
	12	0
	13	0.4
	14	8.8
IC3302	1	4.4
	2	4.5
	3	4.5
	4	4.5
	5	4.5
	6	4.5
	7	4.5
	8	4.5
	9	4.5
	10	4.4
	11	4.4
	12	4.5
	13	4.5
	14	1.5
	15	1.7
	16	2.7
	17	2.7
	18	4.4
	19	*
	20	0
	21	8.9
	22	4.5
	23	2.5
	24	2.1
	25	2.1
	26	2.1
	27	2.0
	28	4.5
	29	4.4
	30	4.3
	31	4.4
	32	4.5
	33	4.4
	34	4.5
	35	4.5
	36	4.4
	37	4.4
	38	4.5
	39	4.4
	40	4.4
IC6200	1	1.5
	2	0
	3	0
	4	0
	5	1.6
	6	8.7
	7	12.3
	8	5.0
	9	25.8
	10	0
	11	4.2
	12	12.0
Q1316	B	8.8
	C	4.6
	E	8.2
Q1317	B	3.9
	C	8.7
	E	4.6
Q1318	B	3.5
	C	6.1
	E	4.2
Q1323	B	2.0
	C	8.2
	E	2.7
Q1324	B	5.4
	C	8.8
	E	6.1
Q1365	B	3.5
	C	5.3
	E	4.2
Q1372	B	2.8
	C	8.8
	E	3.5
Q1401	B	0
	C	8.8
	E	0
Q1402	B	4.5
	C	0
	E	3.8
Q1403	B	3.1
	C	8.8
	E	3.7
Q1404	B	3.2
	C	8.8
	E	3.8
Q1408	B	5.2
	C	8.8
	E	5.8
Q1409	B	1.8
	C	5.8
	E	2.5
Q3201	S	4.4
	G	4.2
	D	4.3
Q3202	B	3.6
	C	8.6
	E	4.1
Q3203	B	3.6
	C	8.6
	E	4.1
Q3204	S	3.6
	G	4.0
	D	4.4
Q6201	B	0
	C	4.2
	E	0
Q6206	B	0
	C	8.8
	E	0
Q6208	B	0
	C	8.6
	E	0

C6 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC1800	1	6.4
	2	6.4
	3	6.4
	4	6.4
	5	0
	6	6.4
	7	6.4
	8	6.3
	9	6.3
	10	12.7
J701	KR	(135)[132]
	①  164.0Vp-p	
	KG	(135)[*]
	②  160.0Vp-p	

Ref	Pin No.	Voltage[v]
	KB	(136)[*]
	③  170.0Vp-p	
	H2	(*)[0.2]
	④ 24.80Vp-p	
	G2	(266)[263]
Q701	B	*
	C	204
	E	*
Q702	B	136
	C	204
	E	*
Q703	B	(*)[131]
	C	204
	E	*
Q704	B	8.9
	C	(*)[129]
	E	8.3

Ref	Pin No.	Voltage[v]
Q705	B	8.9
	C	*
	E	8.3
Q706	B	8.9
	C	*
	E	8.4
Q707	B	*
	C	5.6
	E	*
Q708	B	*
	C	(5.7)[6.1]
	E	*
Q709	B	*
	C	(5.1)[5.6]
	E	(*)[132]
Q710	B	(1.9)[2.0
	C	8.3
	E	1.5
Q711	B	1.9
	C	8.3
	E	1.5
Q712	B	1.9
	C	8.3
	E	1.5
Q714	B	0.6
	C	0.2
	E	0.01

B1 BOARD VOLTAGE LIST (KV-AR29M60/AR29N90)

Ref	Pin No.	Voltage[v]
IC1502	1	3.1
	2	3.0
	3	3.2
	4	4.6
	5	4.6
	6	0
	7	0
	8	0
	9	8.1
	10	7.9
	11	7.9
	12	7.6
	13	7.6
	14	7.3
	15	7.6
	16	7.6
Q1501	B	2.5
	C	2.4
	E	2.4

Ref	Pin No.	Voltage[v]
Q1502	B	2.3
	C	2.3
	E	2.5
Q1503	B	0.6
	C	0.6
	E	0.6
Q1505	B	0.6
	C	0.8
	E	0
Q1507	B	0.7
	C	0.8
	E	0.7
Q1509	B	0.8
	C	0.8
	E	0
Q1510	B	0.7
	C	0.7
	E	0
Q1511	B	0.7
	C	0.7
	E	0

Ref	Pin No.	Voltage[v]
Q1514	B	0.6
	C	0.6
	E	0.6
Q1515	B	0.6
	C	0.6
	E	0.6
Q1516	B	0.5
	C	0.5
	E	0.5
Q1520	B	0.5
	C	0.4
	E	0
Q1522	B	0.4
	C	0
	E	0.5
Q1523	B	0.4
	C	0
	E	0.5

H1 AND H2 BOARDS VOLTAGE LIST

Ref	Pin No.	Voltage[v]
IC3901	1	(4.9)[4.8]
	2	(0)[4.9]
	3	(4.8)[0]
Q3901	B	0.1
	C	4.9
	E	0.2
Q3902	B	(4.7)[0]
	C	(2.4)[4.9]
	E	(2.0)[0.1]

V1 BOARD VOLTAGE LIST (KV-AR29M66)

Ref	Pin No.	Voltage[v]
IC801	1	0.5
	2	4.8
	3	(0.4)[0.7]
	4	(0.4)[0.7]
	5	4.8
	6	(0.3)[0.9]
	7	(0.3)[0.9]
	8	(0.3)[0.9]
	9	0
	10	0
	11	0
	12	0
	13	0
	14	0
	15	0
	16	0
	17	0
	18	0
	19	0
	20	1.1
	21	1.1
	22	0
	23	2.1
	24	1.2
	25	2.0
	26	2.4
	27	0.02
	28	0
	29	0.9
	30	2.0
	31	2.0
	32	0.02
	33	0.02
	34	0.02
	35	0
	36	1.0
	37	0.2
	38	4.8
	39	4.8
	40	0.02
	41	2.2
	42	2.2
	43	0.02
	44	4.6
	45	0
	46	0
	47	4.8
	48	0
	49	4.3
	50	4.5
	51	0
	52	0
Q801	B	0
	C	4.8
	E	0.02
Q802	B	2.0
	C	4.9
	E	0
Q803	B	0
	C	0.01
	E	0.6
Q805	B	0
	C	1.0
	E	0.3
Q806	B	0
	C	4.8
	E	0.02
Q807	B	0
	C	4.8
	E	0.02
Q808	B	0
	C	4.8
	E	0.02
Q810	B	0
	C	4.0
	E	0.2
Q811	B	4.8
	C	6.5
	E	5.5
Q815	B	0
	C	4.8
	E	0.03
Q817	B	0
	C	0.2
	E	2.8

VM1 BOARD VOLTAGE LIST

Ref	Pin No.	Voltage[v]
Q5901	B	2.6
	C	8.8
	E	(0)[2.0]
Q5902	B	135
	C	135
	E	(70)[64]
Q5903	B	2.6
	C	4.5
	E	1.9
Q5904	B	4.5
	C	0
	E	5.0
Q5905	B	5.5
	C	8.8
	E	5.0
Q5906	B	(0.27)[0.22]
	C	(0)[64.7]
	E	0
Q5907	B	0
	C	0
	E	0
Q5908	B	3.3
	C	0
	E	0
Q5909	B	0
	C	8.8
	E	3.3

D3 BOARD VOLTAGE LIST

Ref	Pin No.	Voltage[v]
IC2800	I	13.2
	G	0
	O	9.0
IC2801	1	4.4
	2	4.5
	3	4.4
	4	0
	5	(1.2)[1.4]
	6	1.2
	7	7.9
	8	8.9
Q2800	B	(0.41)[*]
	C	*
	E	0
Q2801	B	(*)[0.3
	C	(3.1)[*]
	E	0
Q2802	B	2.4
	C	12.7
	E	1.7
Q2803	B	12.1
	C	2.3
	E	12.7
Q2804	B	2.0
	C	12.1
	E	1.5

P5 BOARD VOLTAGE LIST (EXCEPT KV-AR29M60/AR29N90)

Ref	Pin No.	Voltage[v]
IC4101	1	3.3
	2	0
	3	7.9
IC4102	1	0.9
	2	0
	3	1.3
	4	0
	5	4.9
	6	5.0
	7	1.4
	8	0
	9	0.7
	10	(3.6)[0]
	11	(0)[4.9]
	12	1.5
	13	0
	14	1.5
	15	0
	16	1.5
IC4104	1	2.0
	2	1.9
	3	1.4
	4	0.2
	5	2.1
	6	5.0
	7	2.5
	8	0
	9	0.3
	10	0.8
	11	2.3
	12	5.0
	13	4.4
	14	4.6
	15	0
	16	0
	17	2.5
	18	2.5
	19	1.4
	20	2.3
	21	1.6
	22	1.8
	23	1.8
	24	0.1
	25	2.2
	26	2.1
	27	2.1
	28	0
	29	2.3
	30	2.2
	31	1.4
	32	5.0
	33	2.2
	34	2.3
	35	2.3
	36	0
	37	1.1
	38	4.0
	39	1.7
	40	3.5
	41	2.3
	42	2.5
	43	1.7
	44	2.2
	45	(3.6)[0]
	46	(2.2)[3.1]
	47	3.7
	48	1.7
IC4105	1	5.0
	2	0.3
	3	0
	4	0.3
	5	5.0
IC4106	I	5.1
	G	0
	O	7.9
IC4201	I	3.3
	G	0
	O	4.9
IC4202	1	0
	2	0
	3	0
	4	3.3
	5	3.3
IC4203	1	3.3
	2	1.7
	3	3.3
	4	0
	5	3.3
	6	3.3
	7	0.1
	8	0.5
	9	0
	10	0.4
	11	1.3
	12	2.5
	13	3.3
	14	0
	15	0.2
	16	0
	17	1.3
	18	1.3
	19	2.4
	20	3.3
	21	0
	22	0.2
	23	0
	24	1.3
	25	1.5
	26	2.5
	27	3.2
	28	0
	29	0.2
	30	0
	31	0
	32	3.3
	33	0
	34	3.3
	35	0
	36	3.3
	37	3.3
	38	3.3
	39	3.3
	40	3.3
	41	3.3
	42	3.3
	43	3.3
	44	3.3
	45	0
	46	3.3
	47	3.3
	48	3.3
	49	3.3
	50	3.3
	51	3.3
	52	3.3
	53	3.3
	54	(0)[3.3]
	55	0
	56	0
	57	2
	58	1.3
	59	1.3
	60	2.4
	61	2.3
	62	(2.0)[1.9]
	63	1.4
	64	1.5
	65	1.5
	66	0
	67	(2.0)[1.9]
	68	0.1
	69	1.5
	70	1.5
	71	1.6
	72	1.8
	73	3.4
	74	0
	75	0
	76	1.4
	77	0.2
	78	0.1
	79	1.8
	80	0
	81	0
	82	3.3
	83	(0.1)[0]
	84	0
	85	(0)[3.3]
	86	3.3
	87	0.4
	88	0
	89	(0.1)[0]
	90	3.3
	91	3.3
	92	0.3
	93	0
	94	0
	95	1.1
	96	1.1
	97	3.3
	98	3.3
	99	0
	100	2.7
	101	2.7
	102	0
	103	0
	104	0
	105	2.7
	106	0
	107	0
	108	0.1
	109	0
	110	0
	111	0
	112	0
	113	0
	114	0
	115	2.7
	116	2.7
	117	0
	118	3.3
	119	3.3
	120	0
	121	0.4
	122	0.2
	121	0.7
	124	0
	125	3.3
	126	3.3
	127	0
	128	1.5
	129	1.5
	130	0
	131	3.3
	132	0
	133	3.3
	134	3.3
	135	3.3
	136	3.3
	137	3.3
	138	0
	139	0.7
	140	0
	141	0
	142	3
	143	3
	144	0
IC4204	1	3.3
	2	0
	3	1.5
	4	0.4
	5	1.7
	6	1.6
	7	0
	8	0
	9	0

P5 BOARD VOLTAGE LIST (EXCEPT KV-AR29M60/AR29N90)

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
	10	0		76	1.4		73	1.8
	11	0		77	2.2		74	3.3
	12	1.6		78	1.3		75	0
	13	2.1		79	1.9		76	0
	14	3.3		80	(2.1)[1.9]		77	1.8
IC4301	1	3.3	IC4401	I	1.8		78	0
	2	0		G	0		79	0.5
	3	0		O	3.3		80	0
	4	0	IC4402	1	1.7		81	0
	5	0		2	3.1		82	0
	6	0		3	3		83	0
	7	0		4	3.3		84	3.3
	8	0		5	3.3		85	2.2
	9	0		6	1.7		86	0
	10	0		7	0.2		87	1.7
	11	0		8	0		88	1.7
	12	0		9	0		89	0
	13	3.3		10	1.7		90	3.3
	14	2.5		11	1.6		91	0
	15	0.7		12	1.7		92	0
	16	3.3		13	(2.1)[1.8]		93	0.7
	17	3.3		14	1.8		94	0
	18	0		15	1.7		95	1.7
	19	0.2		16	1.7		96	0
	20	0		17	1.5		97	0
	21	1.5		18	3.4		98	3.3
	22	(1.8)[2.0]		19	0		99	3.3
	23	0		20	0		100	0
	24	3.3		21	0		101	3.3
	25	1.3		22	1.5		102	0
	26	(2.1)[1.9]		23	1.6		103	0.3
	27	1.3		24	1.9		104	0
	28	1.5		25	1.7		105	3.3
	29	2.4		26	1.8		106	0
	30	1.5		27	1.7		107	0.1
	31	1.7		28	1.6		108	0
	32	1.9		29	1.5		109	1.7
	33	3.3		30	0		110	3.3
	34	0		31	1.0		111	0
	35	(2.0)[1.9]		32	1.4		112	0
	36	(2.0)[1.9]		33	1.8		113	1.4
	37	(2.0)[1.9]		34	3.4		114	(3.3)[0]
	38	2.0		35	1.5		115	(0.2)[0.3]
	39	(2.1)[1.8]		36	0		116	1.7
	40	1.3		37	#		117	0
	41	3.3		38	#		118	3.3
	42	0		39	#		119	1.2
	43	0.3		40	#		120	(2.2)[1.8]
	44	(3.3)[0]		41	#		121	2.1
	45	1.5		42	#		122	(2.0)[1.8]
	46	0		43	#		123	(2.1)[1.8]
	47	3.3		44	#		124	(2.1)[1.8]
	48	0		45	#		125	(2.0)[1.7]
	49	3.3		46	#		126	3.4
	50	3.3		47	#		127	0
	51	3.3		48	#		128	1.7
	52	0		49	#		129	1.4
	53	3.3		50	#		130	2.1
	54	3.3		51	#		131	2.3
	55	3.3		52	#		132	1.4
	56	0.1		53	#		133	2.1
	57	0.3		54	#		134	2.1
	58	1.5		55	#		135	1.8
	59	0		56	#		136	1.7
	60	3.3		57	#		137	1.8
	61	3.3		58	#		138	0
	62	3.3		59	#		139	0
	63	0		60	#		140	0
	64	1.3		61	#		141	0
	65	(2.2)[1.8]		62	#		142	0
	66	2.1		63	#		143	3.4
	67	(2.1)[1.8]		64	#		144	0
	68	(2.1)[1.8]		65	#	IC4403	1	4.3
	69	(2)[1.8]		66	#		2	0
	70	1.9		67	#		3	2.1
	71	1.7		68	#		4	0.3
	72	1.6		69	#		5	1.7
	73	3.4		70	#		6	2.0
	74	2.5		71	#		7	0
	75	1.2		72	#		8	0

P5 BOARD VOLTAGE LIST (EXCEPT KV-AR29M60/AR29N90)

Ref	Pin No.	Voltage[v]
	9	0
	10	0
	11	0
	12	2.1
	13	2.3
	14	4.3
IC4404	1	0.3
	2	0
	3	0
	4	3
	5	3.3
IC4405	1	5.0
	2	0
	3	8.8
Q4105	B	5.0
	C	0
	E	4.4
Q4106	B	(1.4)[2.3]
	C	4.9
	E	(2.2)[3.0]
Q4107	B	1.4
	C	0
	E	1
Q4108	B	0
	C	(0)[4.9]
	E	0
Q4109	B	0
	C	4.9
	E	0.3
Q4110	B	5.0
	C	0.4
	E	4.5
Q4111	B	4.9
	C	0
	E	4.9
Q4112	B	0.1
	C	4.9
	E	0.2
Q4114	B	2.5
	C	0
	E	1.8
Q4116	B	2.5
	C	0
	E	1.8
Q4117	B	2.3
	C	0
	E	1.7
Q4122	B	2.4
	C	4.9
	E	3.0
Q4123	B	2.4
	C	5.0
	E	3.0
Q4124	B	2.4
	C	5.0
	E	3.0
Q4129	B	1.7
	C	8.2
	E	2.3
Q4130	B	1.8
	C	8.2
	E	2.4
Q4131	B	1.8
	C	8.2
	E	0
Q4132	B	8.8
	C	2.9
	E	8.2
Q4133	B	8.8
	C	3.0
	E	8.2
Q4134	B	8.8
	C	3.0
	E	8.2
Q4135	B	1.5
	C	8.2
	E	2.2
Q4136	B	2.1
	C	8.2
	E	2.7
Q4137	B	2.1
	C	8.2
	E	2.7
Q4138	B	8.8
	C	3.2
	E	8.2
Q4139	B	8.9
	C	3.9
	E	8.2
Q4140	B	8.9
	C	3.3
	E	8.2
Q4141	B	2.5
	C	8.8
	E	3.2
Q4142	B	3.3
	C	8.8
	E	4.0
Q4143	B	2.7
	C	8.9
	E	3.3
Q4144	B	4.9
	C	0
	E	4.9
Q4145	B	0
	C	4.9
	E	0.2
Q4201	B	2.3
	C	4.9
	E	2.9
Q4202	B	2.4
	C	4.9
	E	3.0
Q4203	B	2.4
	C	4.9
	E	3.0
Q4204	B	1.3
	C	4.9
	E	2.0
Q4205	B	1.5
	C	4.9
	E	2.1
Q4206	B	1.5
	C	4.9
	E	2.1
Q4207	B	3.0
	C	4.5
	E	3.3
Q4208	B	1.3
	C	3.3
	E	2.0
Q4209	B	3.0
	C	4.5
	E	3.3
Q4210	B	1.3
	C	3.3
	E	2.0
Q4211	B	0.4
	C	3.3
	E	1.0
Q4212	B	0
	C	3.3
	E	0
Q4213	B	0.2
	C	4.9
	E	0.1
Q4214	B	0.4
	C	5.0
	E	0.3
Q4215	B	1.3
	C	0
	E	0.4
Q4216	B	2.0
	C	0
	E	1.4
Q4217	B	1.9
	C	0
	E	1.4
Q4218	B	2.7
	C	4.9
	E	3.3
Q4219	B	2.7
	C	4.9
	E	3.3
Q4401	B	1.7
	C	0
	E	1.0
Q4402	B	1.1
	C	0
	E	0.4
Q4403	B	1.1
	C	0
	E	0.4
Q4404	B	1.6
	C	0
	E	1.0
Q4405	B	1.6
	C	0
	E	1.0
Q4406	B	2.2
	C	0
	E	1.5
Q4407	B	3.7
	C	0
	E	3.1
Q4408	B	0
	C	4.9
	E	0.5
Q4409	B	2.1
	C	0
	E	3.3
Q4410	B	4.3
	C	5.0
	E	5.0
Q4413	B	3.6
	C	0
	E	3.0
Q4414	B	1.6
	C	2.9
	E	0
Q4415	B	0.1
	C	1.6
	E	0.7
Q4416	B	0.7
	C	0
	E	0.1
Q4417	B	2.8
	C	5
	E	3.5
Q4418	B	0.1
	C	1.7
	E	0.7
Q4419	B	2.2
	C	0
	E	1.6
Q4420	B	1.0
	C	0
	E	0.4

B8 BOARD VOLTAGE LIST (EXCEPT KV-AR29M60/AR29N90)

Ref	Pin No.	Voltage[v]
IC3200	1	4.4
	2	4.4
	3	4.4
	4	0
	5	4.4
	6	4.4
	7	4.4
	8	8.8
IC3202	1	4.5
	2	4.5
	3	4.4
	4	0
	5	4.4
	6	4.5
	7	4.5
	8	8.8
IC3204	1	4.4
	2	4.4
	3	4.4
	4	0
	5	4.4
	6	4.4
	7	4.4
	8	8.8
IC3205	1	0.1
	2	0.1
	3	8.7
	4	0.4
	5	0.4
	6	0.4
	7	0.4
	8	0
	9	0.1
	10	2.4
	11	0
	12	0
	13	8.8
	14	4.5
	15	4.4
	16	8.8
IC3301	1	3.0
	2	2.9
	3	3.1
	4	3.0
	5	8.7
	6	0
	7	0
	8	4.5
	9	4.4
	10	4.5
	11	4.4
	12	0
	13	8.7
	14	8.8

Ref	Pin No.	Voltage[v]
IC3302	1	4.4
	2	4.4
	3	4.4
	4	4.5
	5	4.5
	6	4.4
	7	4.5
	8	4.4
	9	4.4
	10	4.4
	11	4.4
	12	4.5
	13	4.4
	14	0.6
	15	2.0
	16	3.5
	17	3.5
	18	4.5
	19	4.4
	20	0
	21	8.8
	22	4.4
	23	4.1
	24	3.8
	25	3.8
	26	3.7
	27	0.6
	28	4.4
	29	4.5
	30	4.4
	31	4.4
	32	4.4
	33	4.4
	34	4.5
	35	4.5
	36	4.4
	37	4.4
	38	4.5
	39	4.5
	40	4.4
IC6200	1	1.6
	2	0
	3	0
	4	0
	5	1.6
	6	8.7
	7	12
	8	5
	9	26
	10	0
	11	4.1
	12	12
Q1316	B	8.9
	C	4.2
	E	8.2

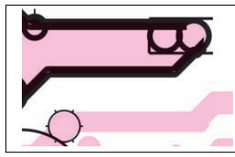
Ref	Pin No.	Voltage[v]
Q1317	B	3.5
	C	8.9
	E	4.2
Q1318	B	3.4
	C	6.3
	E	4.1
Q1323	B	2.0
	C	8.2
	E	2.6
Q1324	B	5.6
	C	8.8
	E	6.3
Q1365	B	3.4
	C	5.5
	E	4.1
Q1372	B	2.8
	C	8.9
	E	3.4
Q1402	B	4.5
	C	0
	E	3.8
Q1403	B	3.1
	C	8.8
	E	3.8
Q1404	B	3.2
	C	8.8
	E	3.8
Q1408	B	5.1
	C	8.9
	E	5.7
Q1409	B	1.8
	C	5.8
	E	2.4
Q1410	B	3.2
	C	8.8
	E	3.0
Q3201	B	4.3
	C	4.3
	E	3.0
Q3202	B	3.4
	C	8.8
	E	4.0
Q3203	B	3.3
	C	8.7
	E	3.9
Q3204	B	4.3
	C	1.7
	E	4.3
Q6201	B	0
	C	4.1
	E	0

KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

5-5. PRINTED WIRING BOARDS AND PARTS LOCATION

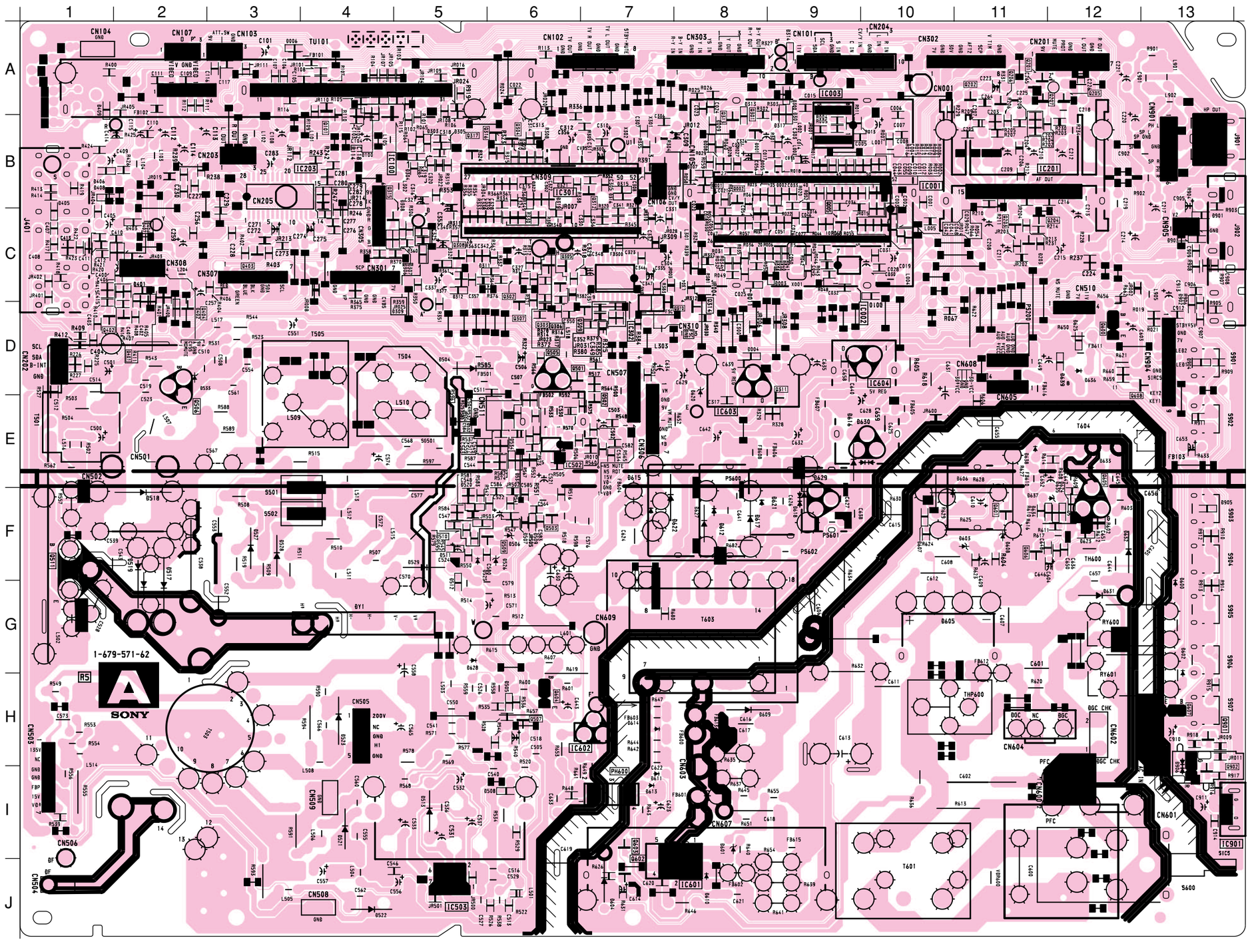
PRINTED WIRING BOARDS

A [SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY]



NOTE:
The circuit indicated at left contains high voltage of over 1220 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.

– A Board – (FOR KV-AR29M60/M64/M68(THAILAND))



A BOARD

IC

IC001	B-10
IC002	D-10
IC003	A-9
IC100	B-4
IC201	B-12
IC203	B-4
IC301	B-6
IC302	D-7
IC502	E-6
IC503	J-5
IC601	J-8
IC602	H-7
IC603	E-8
IC604	D-10
IC901	I-13

DIODE

D001	B-8
D002	B-9
D003	C-9
D004	D-8
D005	B-8
D006	A-3
D007	B-8
D008	B-8
D009	B-8
D010	D-10
D011	C-8
D100	B-4
D203	C-11
D300	A-9
D301	B-9
D303	B-5
D304	B-5
D305	B-5
D306	C-5
D307	C-5
D308	B-5
D309	D-5
D311	C-5
D312	C-5
D313	A-8
D314	A-9
D315	B-7
D316	B-7
D317	B-9
D319	B-6
D320	C-5
D321	B-6
D322	B-6
D360	C-5
D401	C-2
D402	D-2
D403	C-2
D404	C-2
D405	B-1
D406	B-1
D407	C-2
D408	B-1
D409	A-1
D504	D-5
D505	H-6
D506	F-6
D507	F-6
D508	I-6
D509	F-6
D510	F-5
D511	F-5
D512	G-5
D513	I-5
D517	F-2
D518	F-2
D519	F-2
D520	E-5
D521	I-4
D522	J-4
D525	F-5
D526	F-6
D527	F-3
D528	F-3
D529	F-5
D531	E-6
D532	E-5
D523	H-4
D533	D-2
D534	E-6
D600	G-13
D601	I-8
D602	G-13
D603	F-11
D604	J-7
D605	G-10
D606	F-11
D607	F-10
D608	F-11
D609	H-8
D610	J-8
D611	I-7
D612	F-8
D613	I-7
D615	F-7
D616	E-9
D617	F-8
D618	F-9
D620	E-8
D621	F-9
D622	F-8
D623	F-12
D624	E-12
D625	D-12
D627	F-8
D628	G-5
D629	E-9
D630	E-10
D631	G-12
D632	F-12
D633	E-12
D634	F-11
D635	E-12
D636	D-12
D637	F-11
D638	E-11
D639	D-12
D901	C-13
D902	C-13
D903	C-13
D904	D-13
D905	F-13
D906	I-13

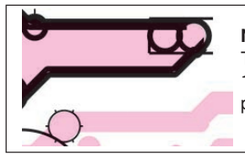
TRANSISTOR

Q001	B-8
Q002	B-8
Q005	B-9
Q101	B-4
Q201	A-11
Q202	A-11
Q203	C-11
Q204	C-12
Q205	A-12
Q206	A-11
Q207	A-12
Q301	B-8
Q302	C-6
Q303	D-6
Q304	B-6
Q305	C-6
Q306	D-6
Q307	D-6
Q308	C-5
Q309	D-6
Q310	D-8
Q311	D-9
Q312	B-7
Q313	A-8
Q314	D-8
Q315	B-4
Q316	B-5
Q317	B-5
Q401	D-2
Q402	D-1
Q403	C-3
Q404	D-2
Q501	D-6
Q502	E-7
Q503	F-6
Q505	D-6
Q506	E-2
Q507	H-6
Q509	F-6
Q511	F-1
Q600	D-12
Q601	F-11
Q602	I-7
Q603	I-7
Q604	H-6
Q605	E-12
Q606	F-11
Q607	H-13
Q608	E-12
Q901	H-13
Q902	I-13

KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

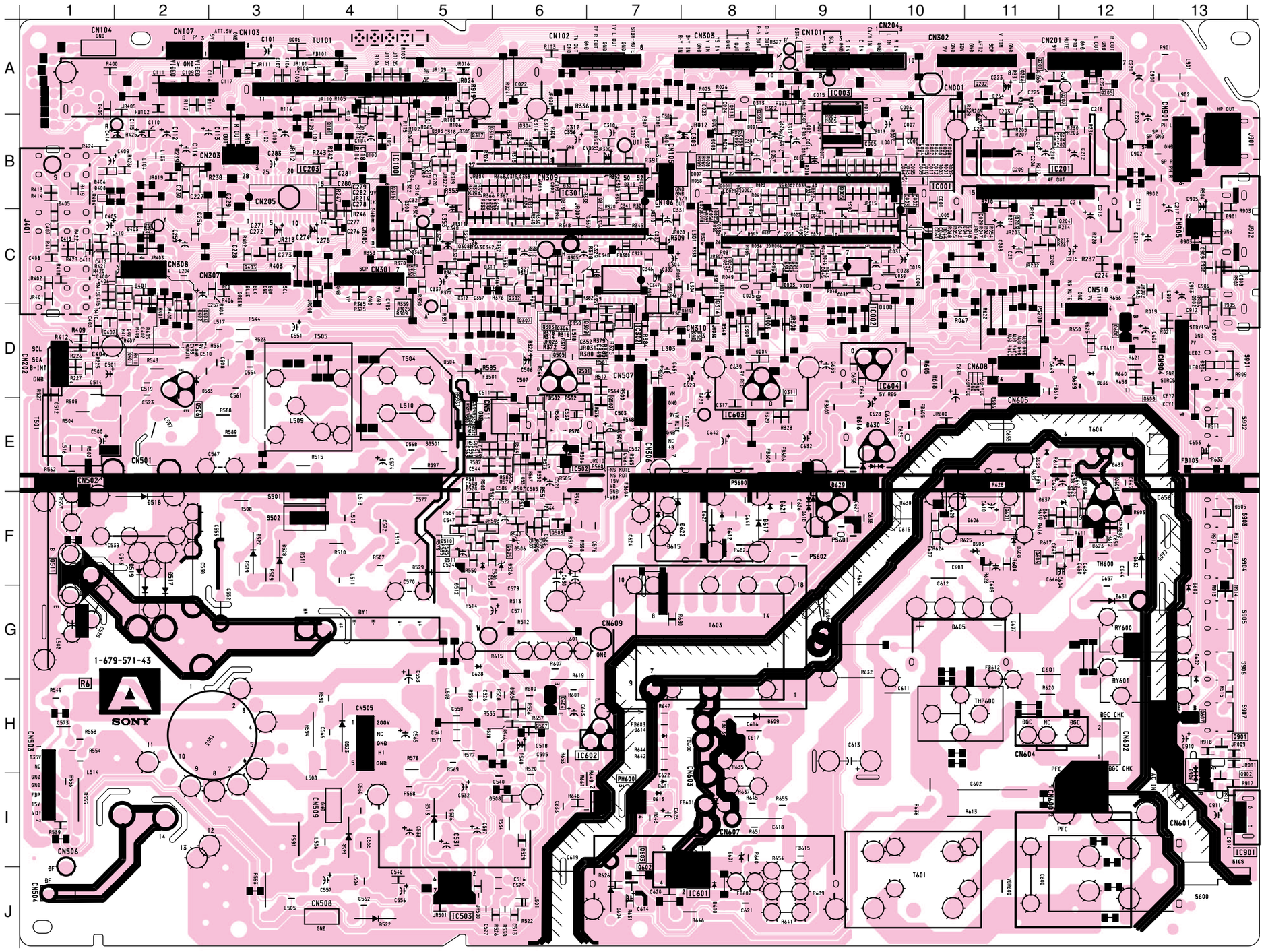
PRINTED WIRING BOARDS

A [SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY]



NOTE:
The circuit indicated at left contains high voltage of over 1220 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.

– A Board – (FOR KV-AR29M64/M94(INDIA))



A BOARD

IC

IC001	B-10
IC002	D-10
IC003	A-9
IC100	B-4
IC201	B-12
IC203	B-4
IC301	B-6
IC302	D-7
IC502	E-6
IC503	J-5
IC601	J-8
IC602	H-7
IC603	E-8
IC604	D-10
IC901	I-13

DIODE

D001	B-8
D002	B-9
D003	C-9
D005	C-8
D006	A-3
D007	B-8
D008	B-8
D009	B-8
D010	D-10
D100	B-4
D300	A-9
D303	B-5
D304	B-5
D305	B-5
D306	C-5
D307	C-5
D308	B-5
D309	D-5
D311	C-5
D312	C-5
D313	A-8
D314	A-9
D315	B-7
D317	B-9
D319	B-6
D320	C-5
D321	B-6
D322	B-6
D360	C-5
D401	C-2
D402	D-2
D403	C-2
D404	C-2
D405	B-1
D406	B-1
D407	C-2
D408	B-1
D409	A-1
D504	D-5
D505	H-6
D506	F-6
D507	F-7
D508	I-6
D509	F-6
D510	F-5
D511	F-5
D512	G-5
D513	I-5
D517	F-2
D518	F-2
D519	F-2
D520	E-5
D521	I-4
D522	J-4
D525	F-5
D526	F-6
D527	F-3
D528	F-3
D529	F-5
D531	E-6
D532	E-5
D5323	H-4
D534	E-6
D600	G-13
D601	I-8
D602	G-13
D603	F-11
D604	J-7
D605	G-10
D606	F-11
D607	F-10
D608	F-11
D609	H-8
D610	J-8
D611	I-7
D612	F-8
D613	I-7
D615	F-7
D616	E-9
D617	F-8
D618	F-9
D620	E-8
D621	F-9
D622	F-8
D623	F-12
D624	E-12
D625	D-12
D627	F-8
D627	F-8
D628	G-5
D629	E-9
D630	E-10
D631	G-12
D632	F-12
D633	E-12
D634	F-11
D635	E-12
D636	D-12
D637	F-11
D638	E-11
D639	D-12
D901	C-13
D902	C-13
D904	D-13
D905	F-13
D906	I-13

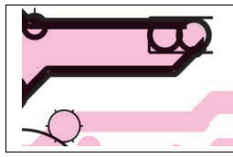
TRANSISTOR

Q001	B-8
Q002	B-8
Q005	B-9
Q101	B-4
Q201	A-11
Q202	A-11
Q203	C-11
Q204	C-12
Q205	A-12
Q206	A-11
Q207	A-12
Q301	B-8
Q302	C-6
Q303	D-6
Q304	B-6
Q305	C-6
Q306	D-6
Q307	D-6
Q308	C-5
Q309	D-6
Q310	D-8
Q311	D-9
Q312	B-7
Q313	A-8
Q314	D-8
Q315	B-4
Q316	B-5
Q317	B-5
Q401	D-2
Q402	D-1
Q403	C-3
Q404	D-2
Q501	D-6
Q502	E-7
Q503	F-6
Q505	D-6
Q506	E-2
Q507	H-6
Q509	F-6
Q511	F-1
Q600	D-12
Q601	F-11
Q602	I-7
Q603	I-7
Q604	H-6
Q605	E-12
Q606	F-11
Q607	H-13
Q608	E-12
Q901	H-13
Q902	I-13

KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

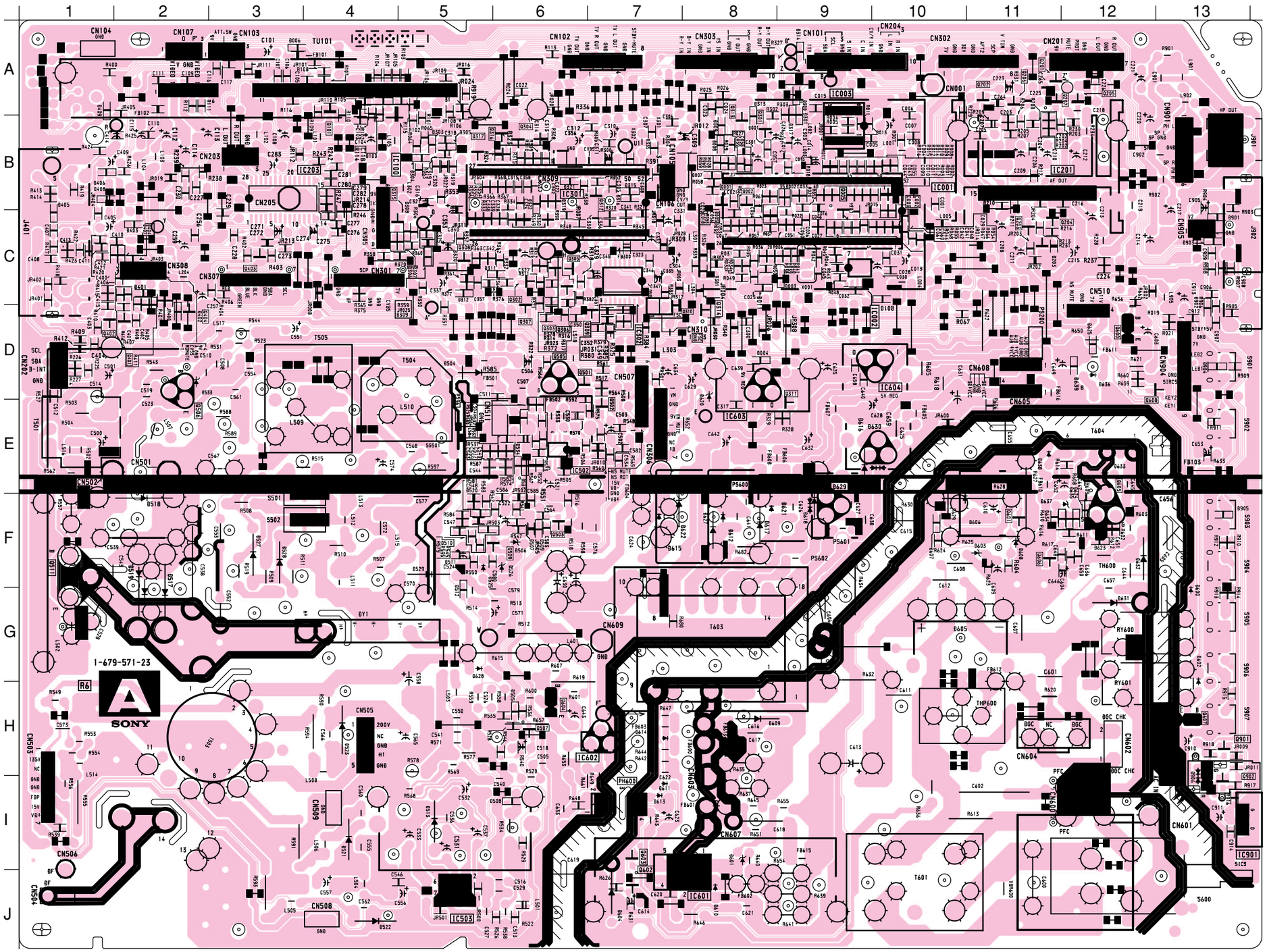
PRINTED WIRING BOARDS

A [SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY]



NOTE:
The circuit indicated at left contains high voltage of over 1220 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.

– A Board – (FOR KV-AR29M66/N90)



A BOARD

IC

IC001	B-10
IC002	D-10
IC003	A-9
IC100	B-4
IC201	B-12
IC203	B-4
IC301	B-6
IC302	D-7
IC502	E-6
IC503	J-5
IC601	J-8
IC602	H-6
IC603	D-8
IC604	D-10
IC901	I-13
PH600	I-7

TRANSISTOR

Q001	B-8
Q002	B-8
Q005	B-9
Q101	B-4
Q201	A-11
Q202	A-11
Q203	C-11
Q204	C-12
Q205	A-12
Q206	A-11
Q207	A-12
Q301	B-8
Q302	C-6
Q303	D-6
Q304	B-6
Q305	C-6
Q306	D-6
Q307	D-6
Q308	C-5
Q309	D-6
Q310	D-8
Q311	D-9
Q312	B-7
Q313	B-8
Q314	D-8
Q315	B-4
Q316	B-5
Q317	B-5
Q401	D-2
Q402	D-1
Q403	C-3
Q404	D-2
Q501	D-6
Q502	E-7
Q503	F-6
Q505	D-6
Q506	E-2
Q507	H-6
Q509	F-6
Q511	F-1
Q600	D-12
Q601	F-11
Q602	J-7
Q603	I-7
Q604	H-6
Q605	E-12
Q606	F-11
Q607	H-13
Q608	E-12
Q901	H-13
Q902	H-13

DIODE

D001	B-8
D002	B-9
D003	C-9
D004	D-8
D005	C-8
D006	A-3
D007	B-8
D008	B-8
D009	B-8
D010	D-10
D011	D-8
D100	B-4
D203	C-11
D300	A-9
D301	B-9
D303	B-5
D304	B-5
D305	B-5
D306	C-5
D307	C-5
D308	B-5
D309	D-5
D311	C-5
D312	C-5
D313	A-8
D314	A-9
D315	B-7
D316	B-7
D317	B-9
D319	B-6
D320	C-5
D321	B-6
D322	B-6
D401	C-2
D402	D-2
D403	C-2
D404	C-2
D405	B-1
D406	B-1
D407	C-2
D408	B-1
D409	A-1
D504	D-5
D505	H-6
D506	F-6
D507	F-6
D508	I-6
D509	F-6
D510	F-5
D511	F-5
D512	G-5
D513	I-5
D517	F-2
D518	F-2
D519	F-2
D520	E-5
D521	I-4
D522	J-4
D523	H-4
D525	F-5
D526	F-6
D527	F-3
D528	F-3
D529	F-5
D531	E-6
D532	E-5
D533	D-2
D534	E-6
D600	G-13
D601	I-8
D602	G-13
D603	F-11
D604	J-7
D605	G-10
D606	F-11
D607	F-10
D608	F-11
D609	H-8
D610	J-8
D611	I-7
D612	F-8
D613	I-7
D614	H-7
D615	F-7
D616	E-9
D617	F-8
D618	F-9
D620	E-8
D621	F-9
D622	F-7
D623	F-12
D624	E-12
D625	D-12
D627	F-8
D628	G-5
D629	E-9
D630	E-10
D631	G-12
D632	F-12
D633	E-12
D634	F-11
D635	E-12
D636	D-12
D637	F-11
D638	E-11
D639	D-12
D901	C-13
D902	C-13
D903	C-13
D904	D-13
D905	F-13
D906	H-13

KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

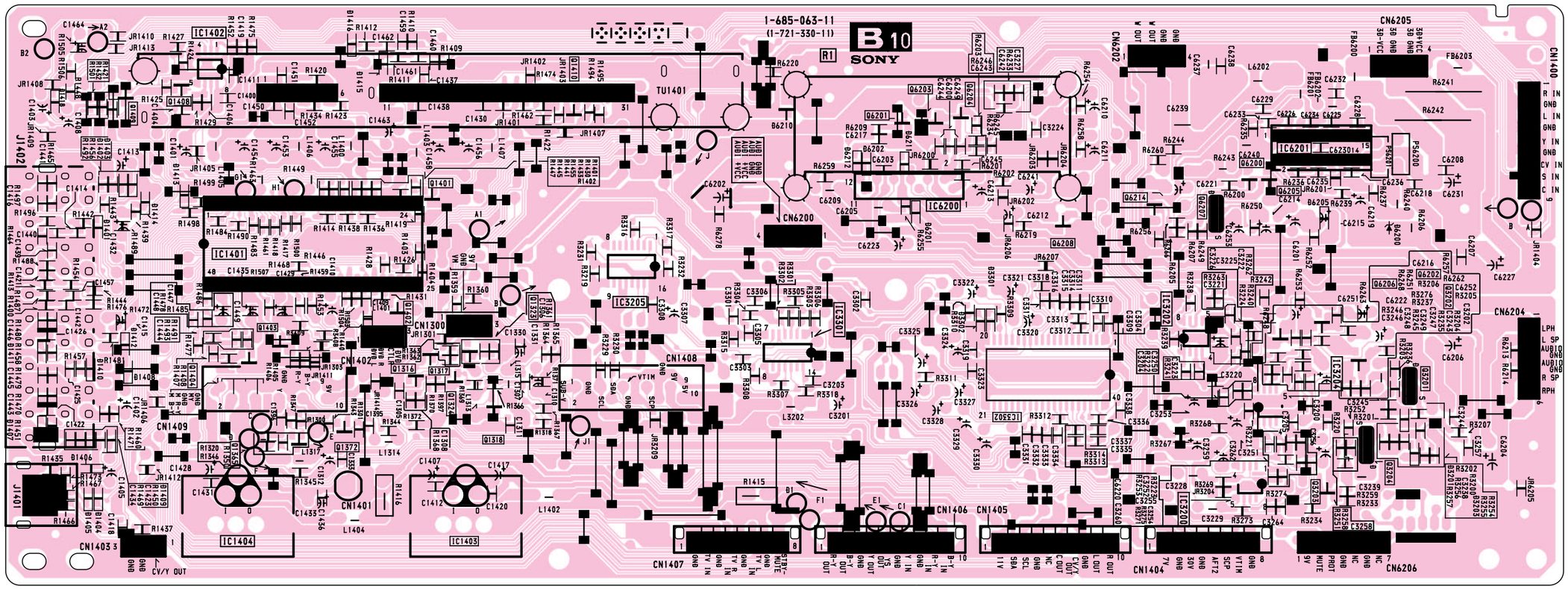
PRINTED WIRING BOARDS

B10 [AUDIO PROCESSOR, AUDIO AMP, SUB TUNER, AV IN/OUT, VM DRIVER]

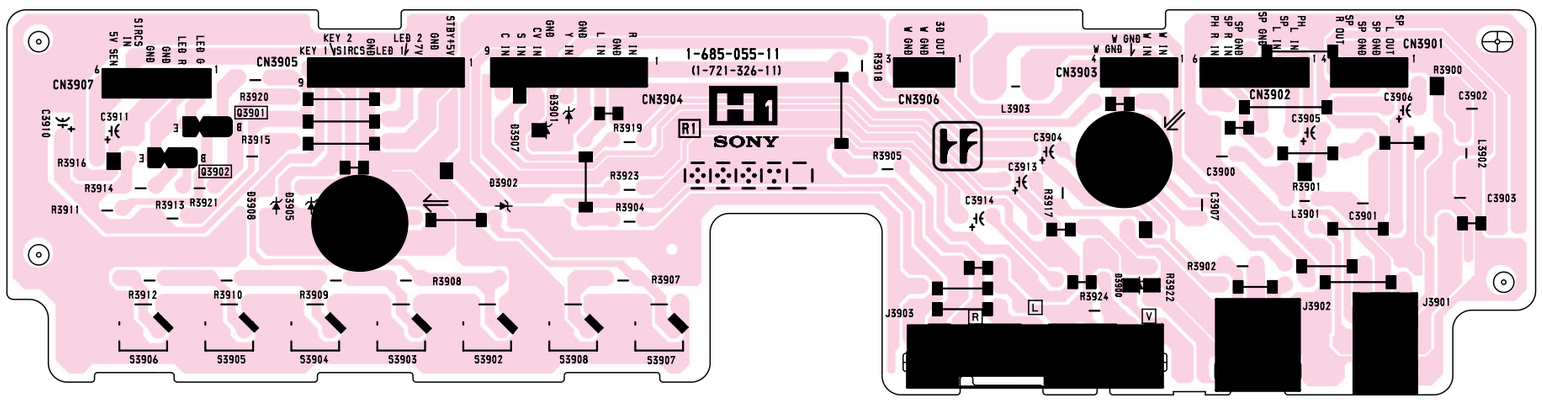
H1 [FRONT AV IN, KEY SW]

J [DVD TERMINAL]

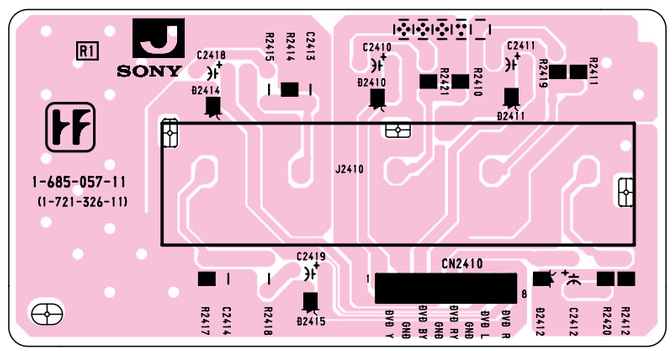
– B10 Board – (FOR KV-AR29M60/AR29N90)



– H1 Board –



– J Board –

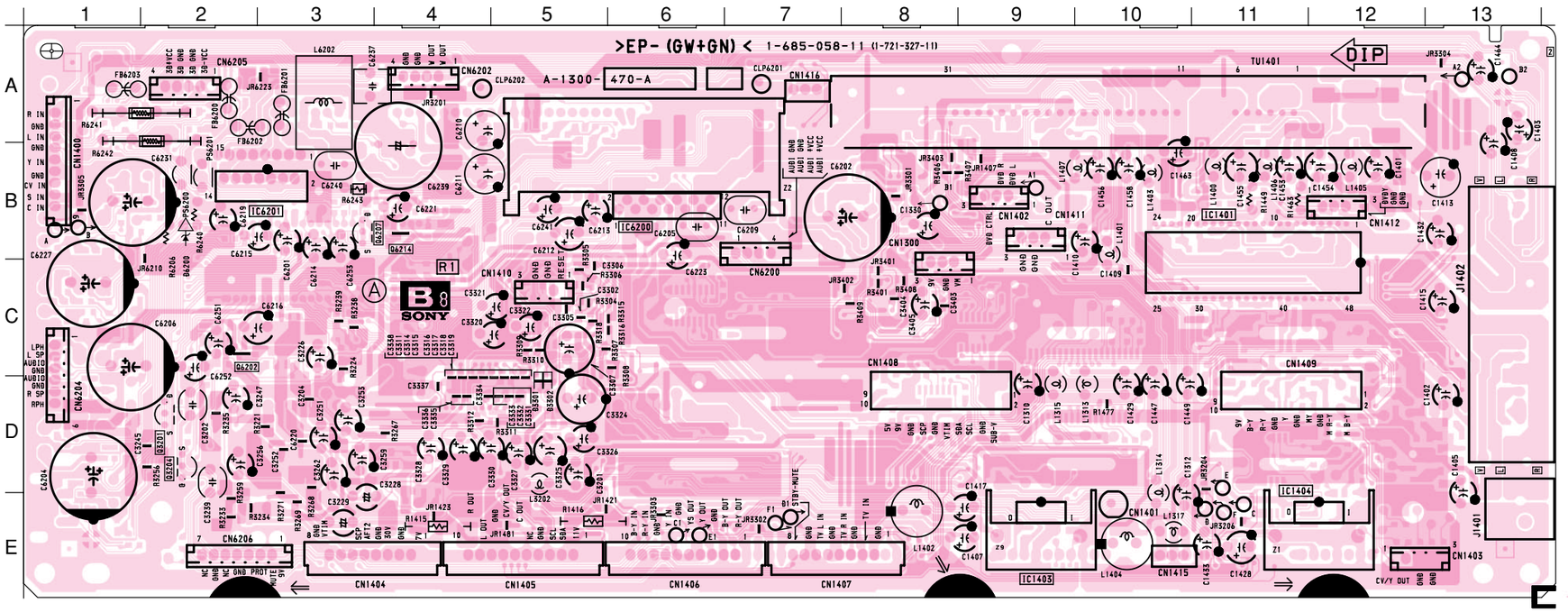


KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

PRINTED WIRING BOARDS

B8 [AV IN/OUT, SURROUND PROCESSOR, AUDIO AMP, VM DRIVER]

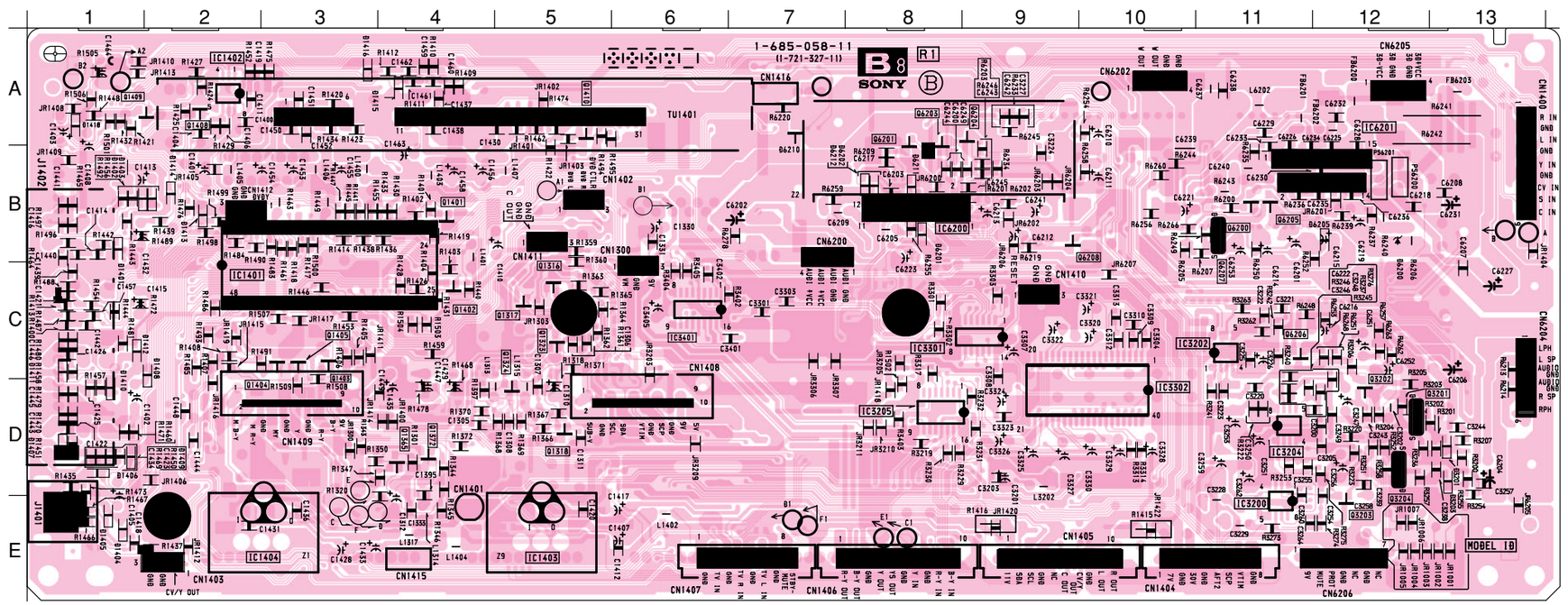
– B8 Board – (Component Side) (EXCEPT KV-AR29M60/AR29N90)



B8 BOARD (Component Side)

IC		TRANSISTOR		DIODE	
IC1401	B-1	Q3201	D-2		
IC1403	E-9	Q3204	D-2		
IC1404	E-11	Q6202	C-2		
IC6200	B-6	Q6207	B-4		
IC6201	B-3	Q6214	B-4		
		DIODE			
		D3301	D-5		
		D3302	D-5		
		D6200	C-2		

– B8 Board – (Conductor Side) (EXCEPT KV-AR29M60/AR29N90)



B8 BOARD (Conductor Side)

IC		TRANSISTOR		DIODE	
IC1401	C-2	Q1316	C-5	D1401	C-1
IC1402	A-2	Q1317	C-5	D1402	B-1
IC1403	E-5	Q1318	D-5	D1403	B-1
IC1404	E-3	Q1323	C-5	D1404	E-1
IC3200	E-11	Q1324	C-5	D1405	E-1
IC3202	C-10	Q1365	D-4	D1406	D-1
IC3204	D-11	Q1372	D-4	D1407	D-1
IC3205	D-8	Q1401	B-4	D1408	C-2
IC3301	C-8	Q1402	C-4	D1409	D-2
IC3302	D-10	Q1403	C-3	D1410	C-1
IC3401	C-6	Q1404	D-2	D1411	C-1
IC6200	B-8	Q1405	C-3	D1412	C-2
IC6201	A-12	Q1408	A-2	D1413	B-2
		Q1409	A-1	D1414	B-2
		Q1410	A-5	D1415	A-3
		Q3201	D-13	D1416	A-3
		Q3202	C-12	D1418	A-1
		Q3203	E-12	D3201	D-13
		Q3204	E-12	D3203	E-13
		Q6200	B-11	D6200	C-1
		Q6201	A-8	D6201	B-8
		Q6203	A-8	D6202	B-7
		Q6204	A-9	D6205	B-12
		Q6205	B-11	D6210	B-7
		Q6206	C-11	D6211	B-8
		Q6207	C-11	D6212	B-7
		Q6208	B-10		

- :Pattern from the side which enables seeing.
- :Pattern from the rear side.

KV-AR29M64/AR29M66/AR29M68/AR29M94
RM-993
KV-AR29M60/AR29N90
RM-995 RM-996

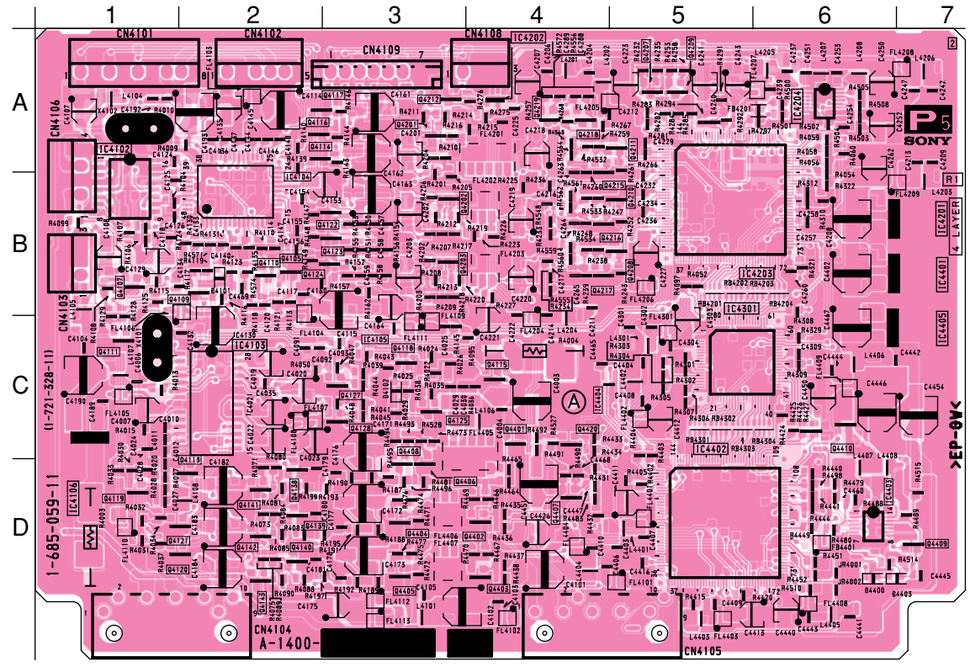
PRINTED WIRING BOARDS

B1 [DVD SWITCH]

F [CISPR]

P5 [PIP, DVD SW, DIGITAL TEXTURE ENHANCER]

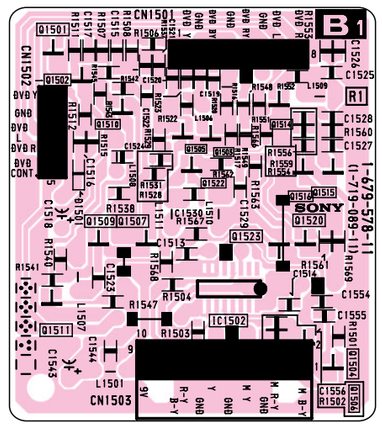
– P5 Board – (Component Side) (EXCEPT KV-AR29M60/AR29N90)



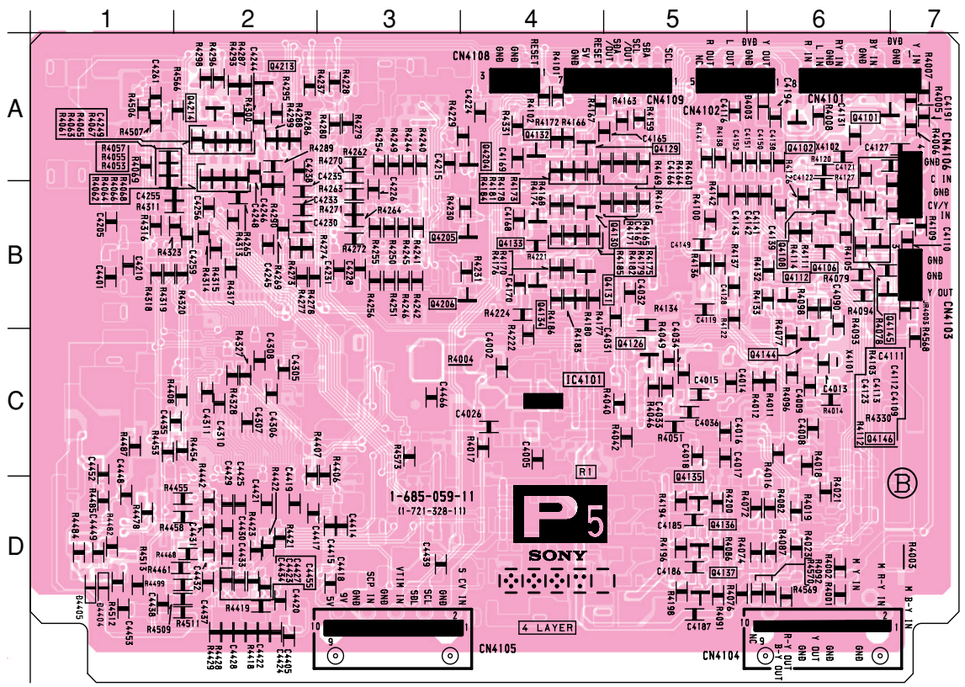
P5 BOARD (Component Side)

IC		Q4114	A-2	Q4210	B-5
		Q4115	C-4	Q4211	A-5
IC4102	A-1	Q4116	A-2	Q4212	A-3
IC4103	C-2	Q4117	A-3	Q4215	B-5
IC4104	B-2	Q4118	C-3	Q4216	B-5
IC4105	C-3	Q4119	D-1	Q4217	B-4
IC4106	D-1	Q4120	D-2	Q4218	A-4
IC4201	B-7	Q4121	D-2	Q4219	A-4
IC4202	A-4	Q4122	B-3	Q4401	C-4
IC4203	B-5	Q4123	B-3	Q4402	D-4
IC4204	A-6	Q4124	B-2	Q4403	D-4
IC4301	B-5	Q4125	C-3	Q4404	D-3
IC4401	B-7	Q4127	C-3	Q4405	D-3
IC4402	C-5	Q4128	C-3	Q4406	D-4
IC4403	D-6	Q4138	D-2	Q4407	D-4
IC4404	C-4	Q4139	D-2	Q4408	C-3
IC4405	C-7	Q4140	D-2	Q4409	D-7
		Q4141	D-2	Q4410	C-6
TRANSISTOR		Q4142	D-2	Q4420	C-4
		Q4143	E-2		
Q4105	B-2	Q4201	A-3	**DIODE**	
Q4107	B-1	Q4202	B-4		
Q4109	B-2	Q4203	B-4	D4101	B-2
Q4110	B-2	Q4207	A-5	D4400	D-6
Q4111	C-1	Q4208	B-5		
Q4113	D-2	Q4209	A-5		

– B1 Board – (KV-AR29M60/AR29N90)



– P5 Board – (Conductor Side) (EXCEPT KV-AR29M60/AR29N90)

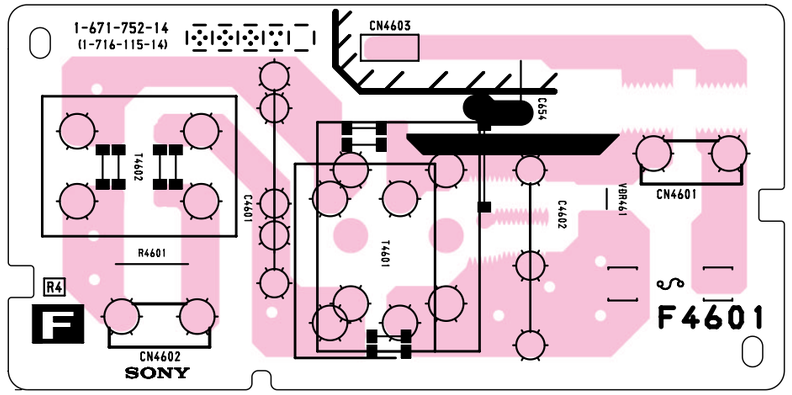


P5 BOARD (Conductor Side)

IC		Q4134	B-4	Q4204	A-4
		Q4135	D-5	Q4205	B-3
IC4101	C-4	Q4136	D-5	Q4206	B-3
		Q4137	D-5	Q4213	A-2
TRANSISTOR		Q4144	C-6		
		Q4145	B-7	**DIODE**	
Q4101	A-6	Q4146	C-6		
Q4102	A-6			D4003	A-5
Q4106	B-6			D4404	D-1
Q4108	B-6			D4405	D-1
Q4112	B-6				
Q4126	C-5				
Q4129	A-5				
Q4130	B-5				
Q4131	B-5				
Q4132	A-4				
Q4133	B-4				

- :Pattern from the side which enables seeing.
- :Pattern from the rear side.

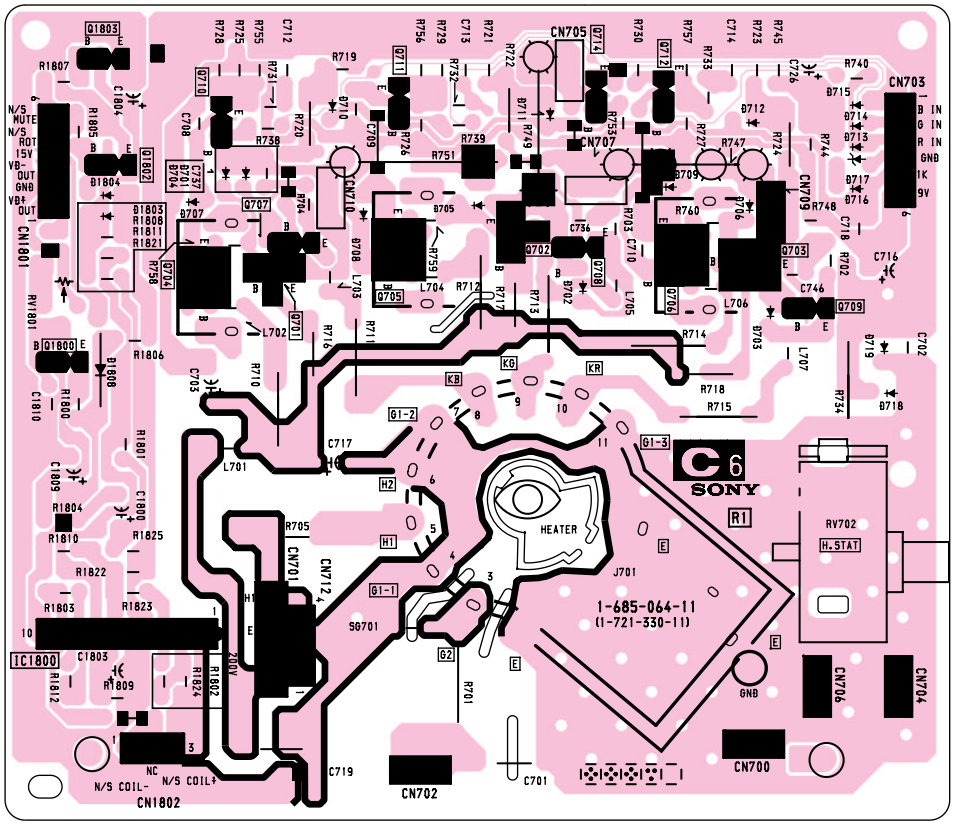
– F Board –



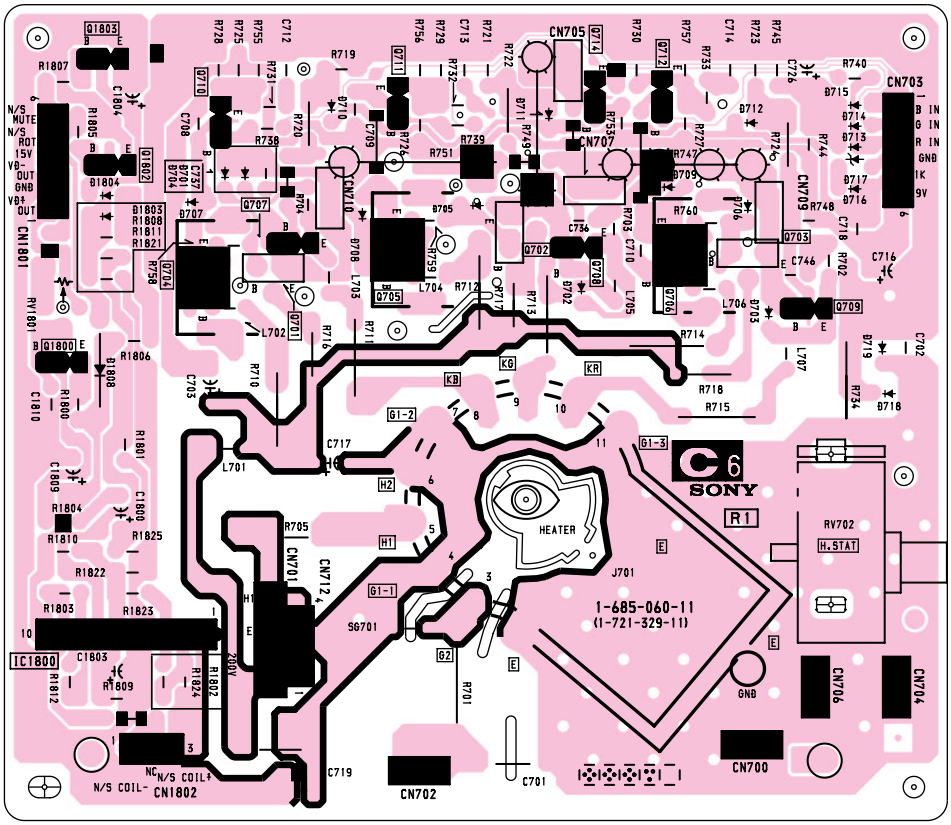
PRINTED WIRING BOARDS

C6 [VIDEO AMP, ROTATION CIRCUIT]

– C6 Board – (FOR KV-AR29M60/AR29N90)



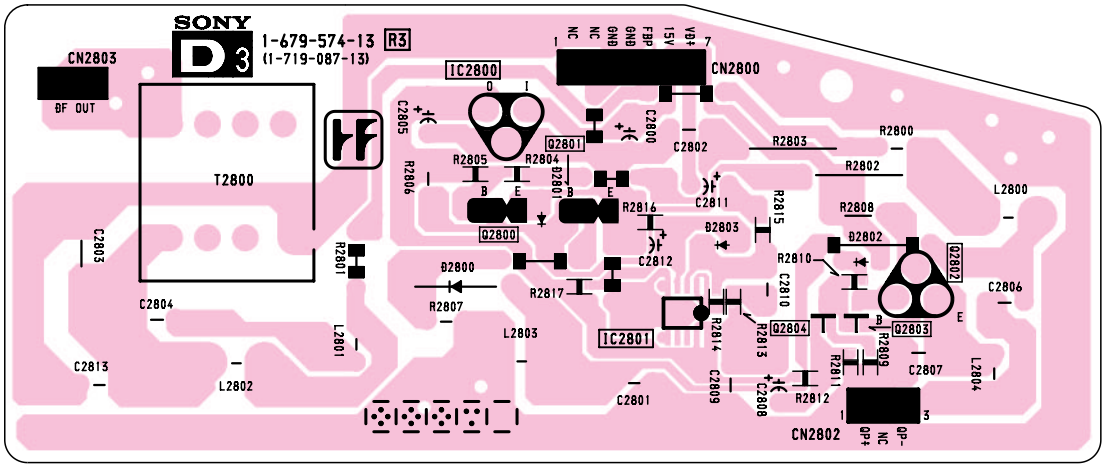
– C6 Board – (EXCEPT KV-AR29M60/AR29N90)



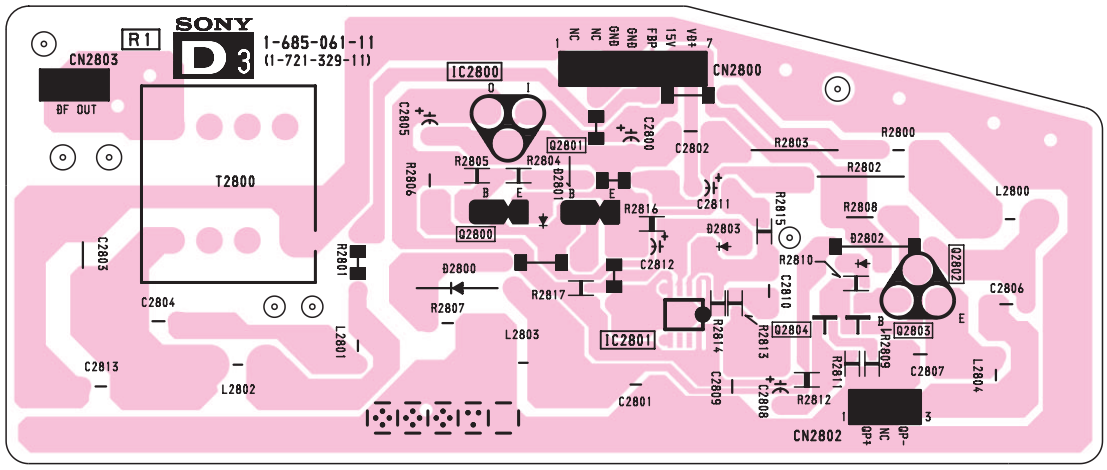
PRINTED WIRING BOARDS

D3 [DYNAMIC FOCUS, DQP]

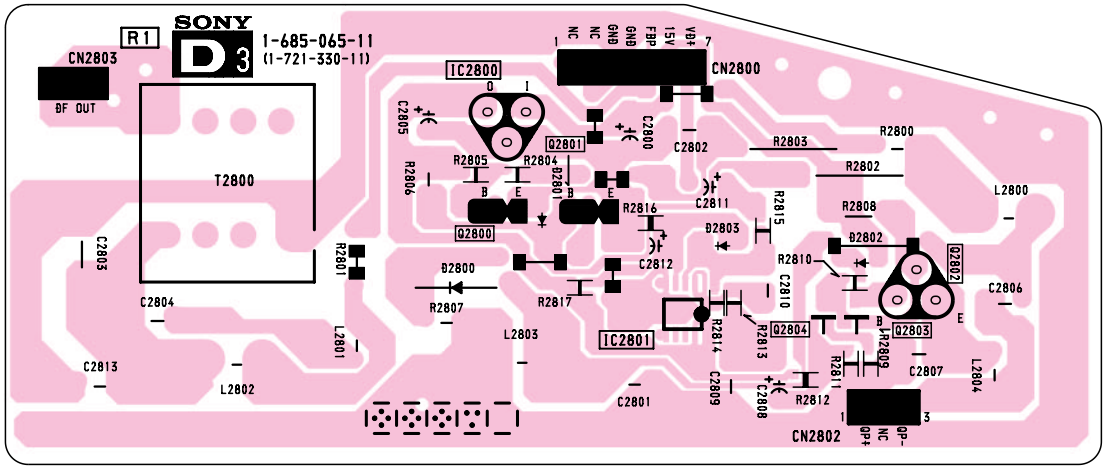
– D3 Board – (FOR KV-AR29M64/M94(INDIA))



– D3 Board – (FOR KV-AR29M64(THAILAND)/M66/M68)



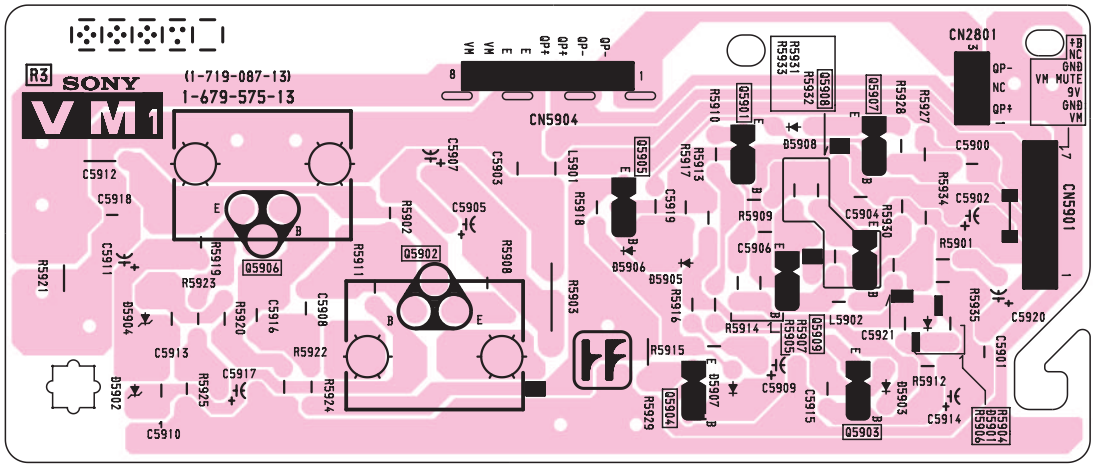
– D3 Board – (FOR KV-AR29M60/N90)



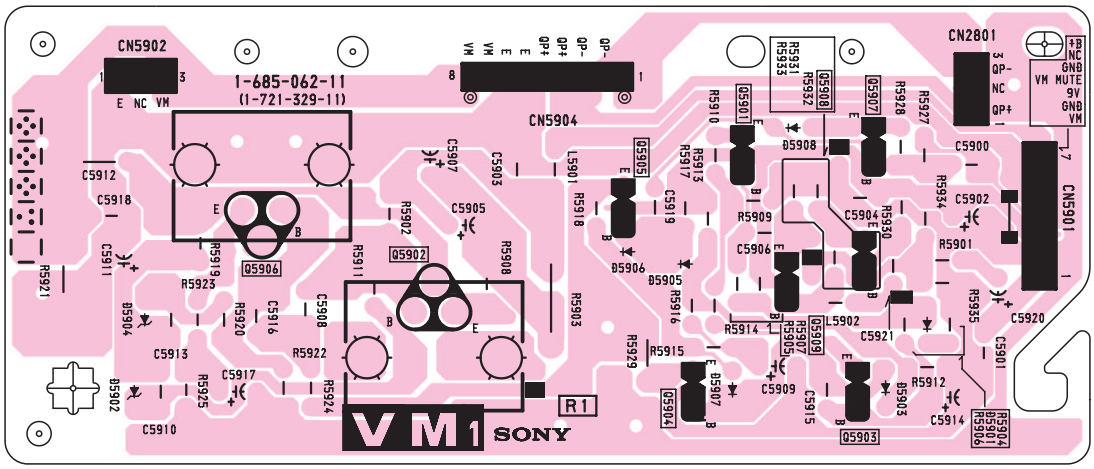
PRINTED WIRING BOARDS

VM1 [DYNAMIC FOCUS, DQP]

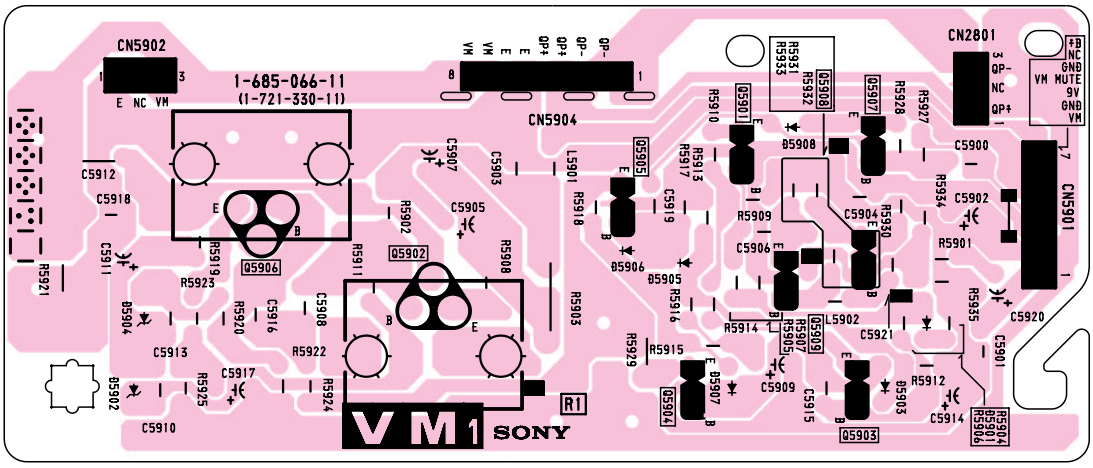
– VM1 Board – (FOR KV-AR29M64/M94(INDIA))



– VM1 Board – (FOR KV-AR29M64(THAILAND)/M66/M68)



– VM1 Board – (FOR KV-AR29M60)

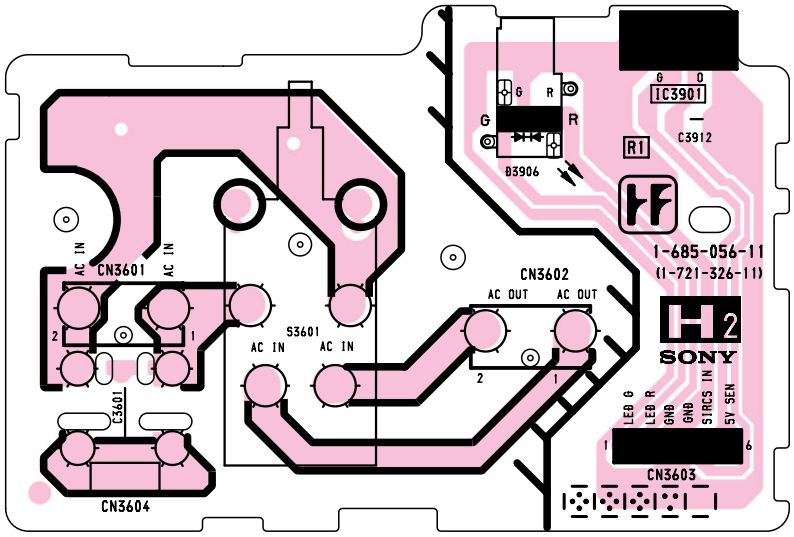


PRINTED WIRING BOARDS

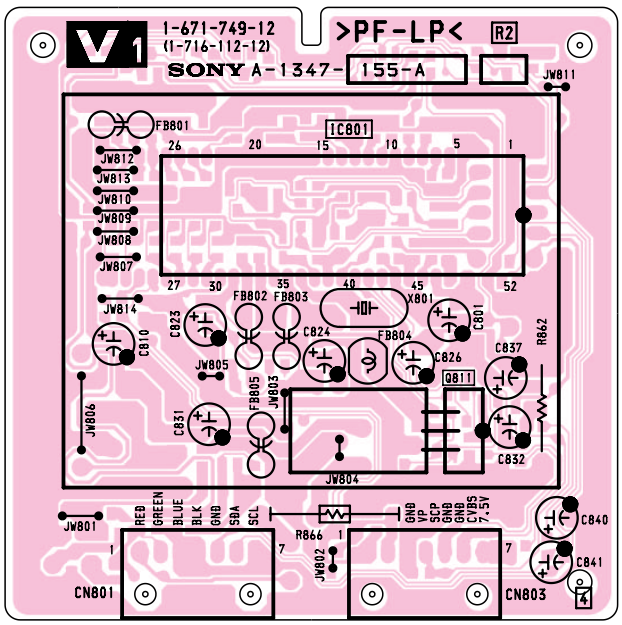
H2 [RECEIVER, POWER SW, LED]

V1 [TELETEXT]

– H2 Board –

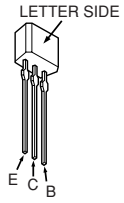
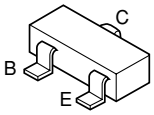
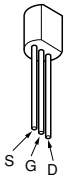
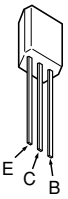
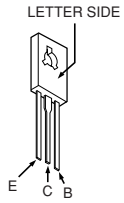


– V1 Board – (FOR KV-AR29M66)



5-6. SEMICONDUCTORS

TRANSISTOR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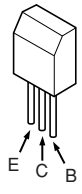
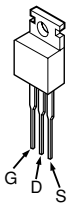
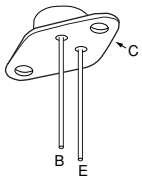
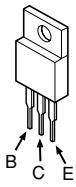
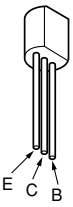
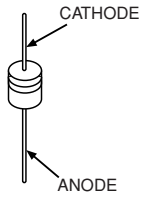
DIODE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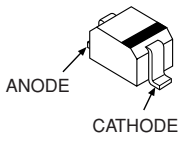		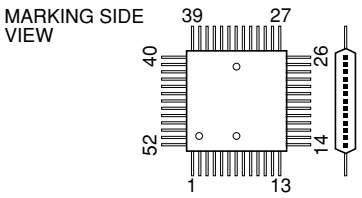		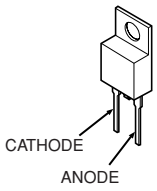	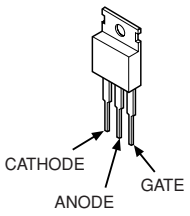
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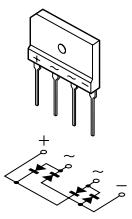	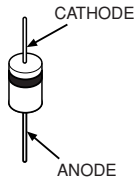	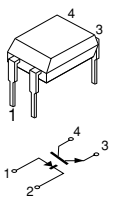	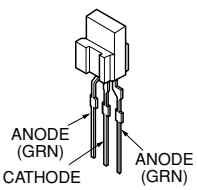	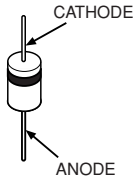	
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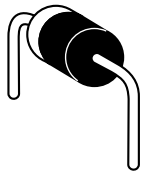
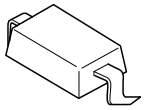
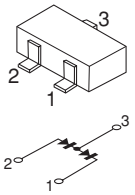
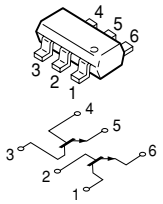
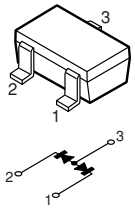
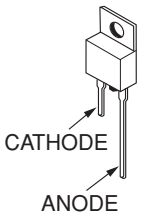
DIODE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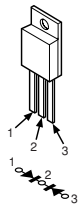	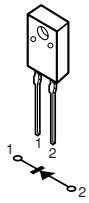			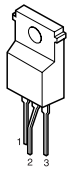	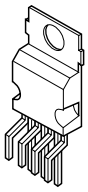
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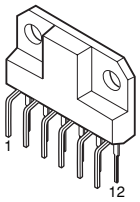	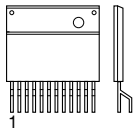	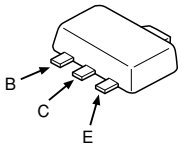	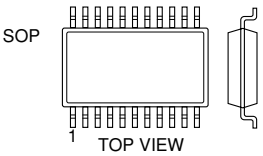		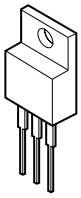
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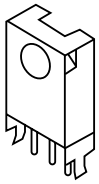	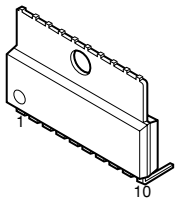	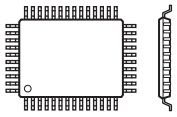	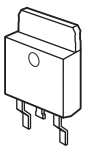	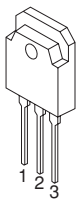	
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SECTION 6
EXPLODED VIEWS

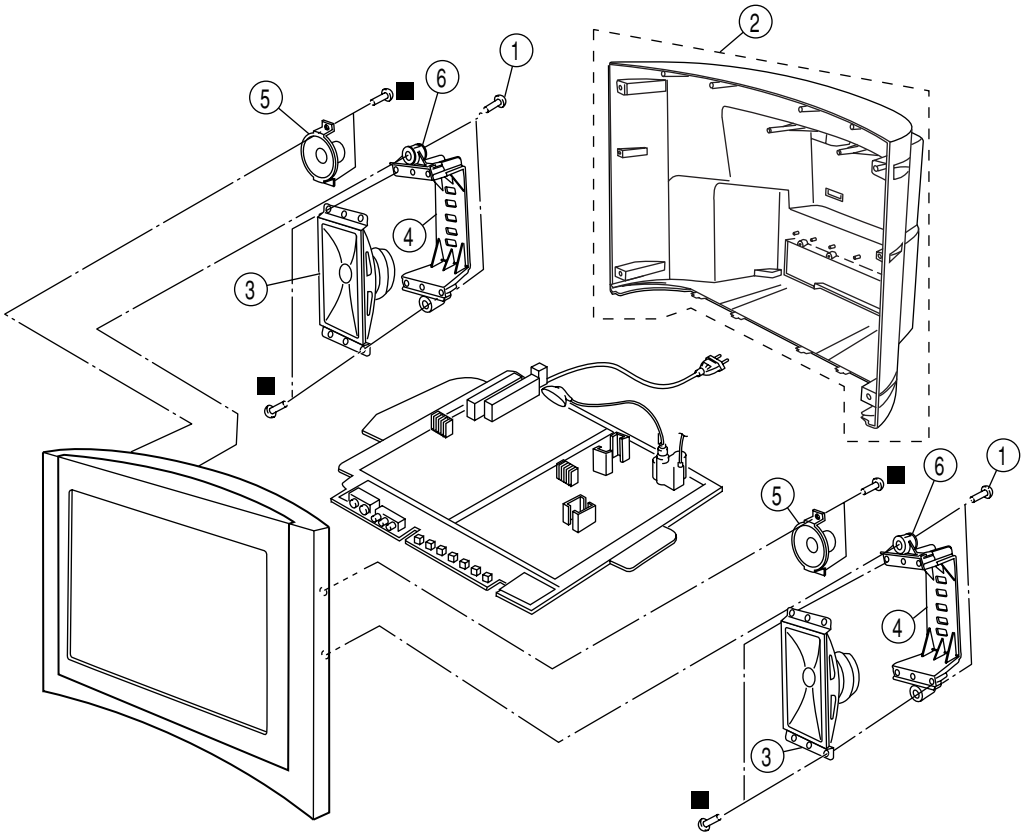
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

6-1. SPEAKER BRACKET

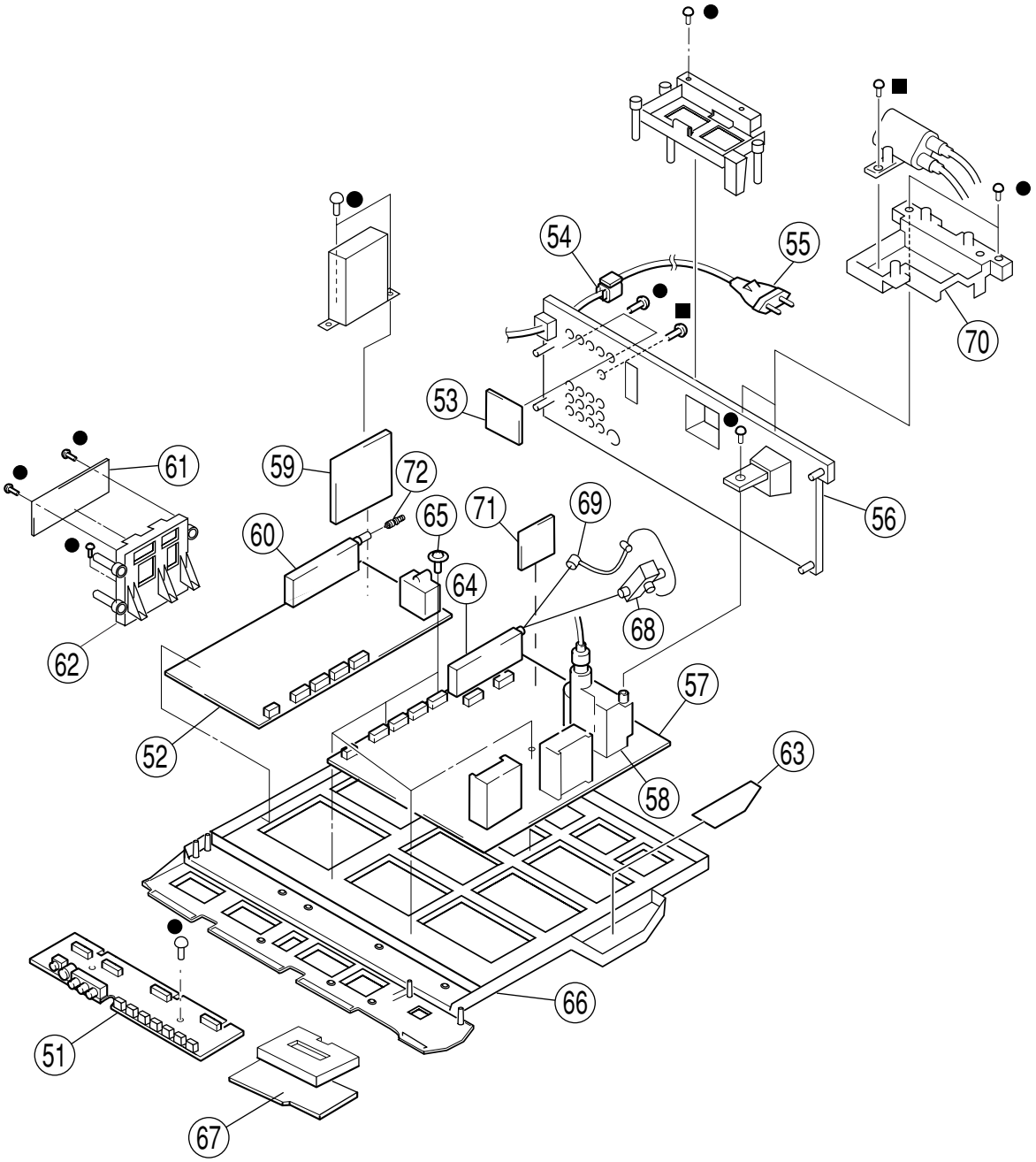
■ : 7-685-663-71 SCREW +BVTP 4 × 16



REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-302-404-03	SCREW (WASHER HEAD)(+P4 x 16)	
2	X-4040-701-1	COVER REAR ASSY (EXCEPT KV-AR29M64/M94(INDIA))	
	X-4040-522-2	COVER REAR ASSY (KV-AR29M64/M94(INDIA))	
3	1-825-099-11	SPEAKER (13 x 5.5 CM)	
4	* 4-086-708-11	BRACKET, SPEAKER	
5	1-825-163-11	SPEAKER (5 CM)	
6	4-374-745-21	CUSHION (A) (KV-AR29M60/M64 (THAILAND)/ AR29M66/M68/N90)	

6-2. CHASSIS

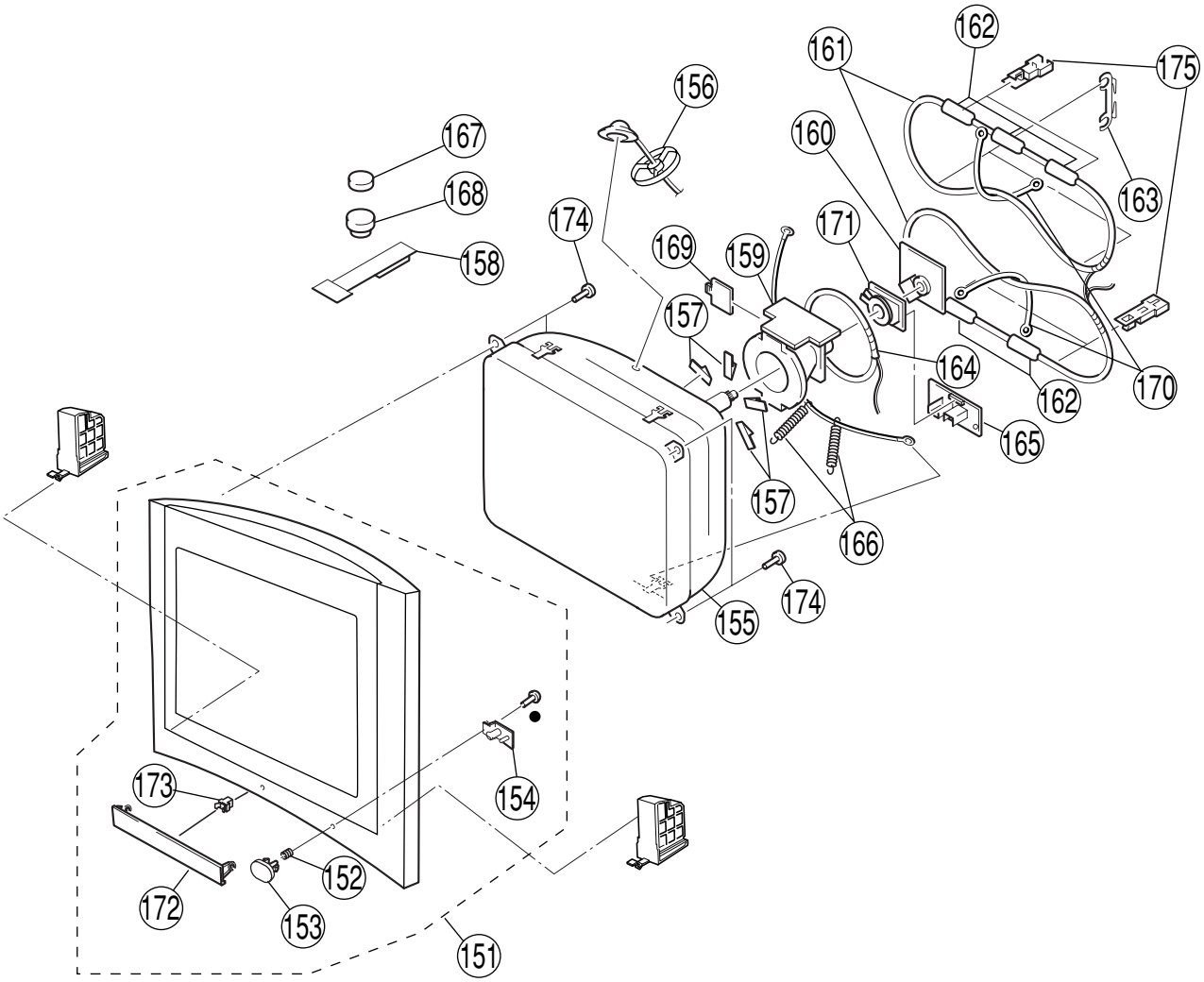
● : 7-685-648-79 SCREW +BVTP 3 × 12
■ : 7-685-663-71 SCREW +BVTP 4 × 16



REF. NO.		PART NO.	DESCRIPTION	REMARK
51	*	A-1401-322-A	H1 BOARD MOUNTED (KV-AR29M60/M64 (THAILAND)/M68)	
	*	A-1401-474-A	H1 BOARD MOUNTED (KV-AR29M64/M94(INDIA)	
	*	A-1400-972-A	H1 BOARD MOUNTED (KV-AR29M66/N90)	
52	*	A-1300-766-A	B10 BOARD COMPLETE (KV-AR29M60)	
	*	A-1300-895-A	B10 BOARD COMPLETE (KV-AR29N90)	
	*	A-1300-703-A	B8 BOARD COMPLETE (KV-AR29M64 (THAILAND))	
	*	A-1300-731-A	B8 BOARD COMPLETE (KV-AR29M68)	
	*	A-1300-764-A	B8 BOARD COMPLETE (KV-AR29M66)	
	*	A-1300-813-A	B8 BOARD COMPLETE (KV-AR29M64/M94(INDIA)	
53	*	A-1401-328-A	J BOARD, MOUNTED (KV-AR29M60/M64 (THAILAND)/M68)	
	*	A-1401-480-A	J BOARD MOUNTED (KV-AR29M64/M94 (INDIA)	
	*	A-1400-975-A	J BOARD MOUNTED (KV-AR29M66/N90)	
54	⚠	4-022-115-00	HOLDER, AC CORD (KV-AR29M66/N90)	
	⚠	4-022-115-21	HOLDER, AC CORD (KV-AR29M60/M64 (THAILAND)/ AR29M64/M94(INDIA)/M68)	
55	⚠	1-824-642-11	CORD, POWER (WITH CONNECTOR) (KV-AR29M60/M64 (THAILAND)/M68)	
	⚠	1-790-130-31	CORD, AC POWER (WITH CONNECTOR) (KV-AR29N90)	
	⚠	1-782-452-11	CORD, POWER (WITH CONNECTOR) (KV-AR29M64/M94(INDIA)	
	⚠	1-823-480-11	CORD, AC POWER (WITH CONNECTOR) (KV-AR29M66)	
56	*	4-081-023-03	BRACKET, TERMINAL (KV-AR29M60/M68)	
	*	4-081-023-23	BRACKET, TERMINAL (KV-AR29N90)	
	*	4-066-684-02	BRACKET, TERMINAL (KV-AR29M64 (THAILAND)/ AR29M64/M94(INDIA)/M66)	
57	*	A-1300-702-A	A BOARD COMPLETE (KV-AR29M64 (THAILAND))	
	*	A-1300-730-A	A BOARD COMPLETE (KV-AR29M68)	
	*	A-1300-763-A	A BOARD COMPLETE (KV-AR29M66)	
	*	A-1300-765-A	A BOARD COMPLETE (KV-AR29M60)	
	*	A-1300-781-A	A BOARD COMPLETE (KV-AR29N90)	
	*	A-1300-812-A	A BOARD COMPLETE (KV-AR29M64/M94 (INDIA)	
58	⚠	1-453-284-11	TRANSFORMER ASSY, FLYBACK (NX-4009//M314) (KV-AR29M60/M64/M68/M94/N90)	
	⚠	1-453-297-21	TRANSFORMER ASSY, FLYBACK (NX-4009//M314) (KV-AR29M66)	
59	*	A-1131-652-A	B1 BOARD MOUNTED (KV-AR29N90)	
	*	A-1131-665-A	B1 BOARD MOUNTED (KV-AR29M60)	
	*	A-1401-241-A	P5 BOARD MOUNTED (KV-AR29M66)	
	*	A-1401-325-A	P5 BOARD MOUNTED (KV-AR29M64 (THAILAND)	
	*	A-1401-476-A	P5 BOARD MOUNTED (KV-AR29M64/M94(INDIA)	
	*	A-1401-487-A	P5 BOARD MOUNTED (KV-AR29M68)	
60		8-598-451-20	TUNER, FSS BTF-WG441 (KV-AR29M60/M68)	
		8-598-452-20	TUNER, FSS BTF-WG442 (KV-AR29M64/M94/M66)	
		8-598-593-20	TUNER, FSS BTF-WA421 (KV-AR29N90)	
61	*	A-1401-345-A	F BOARD MOUNTED (KV-AR29M60/M64 (THAILAND)/M68)	
	*	A-1401-812-A	F BOARD MOUNTED (KV-AR29M66)	
	*	A-1241-456-A	F BOARD MOUNTED (KV-AR29N90)	
	*	A-1401-481-A	F BOARD MOUNTED (KV-AR29M64/M94(INDIA)	
62	*	4-066-682-01	BRACKET, F PWB	
63	*	A-1401-566-A	D3 BOARD MOUNTED (KV-AR29M60)	
	*	A-1401-680-A	D3 BOARD MOUNTED (KV-AR29M64/M94(INDIA)	
	*	A-1401-414-A	D3 BOARD MOUNTED (KV-AR29M64 (THAILAND)/M68)	
	*	A-1401-674-A	D3 BOARD MOUNTED (KV-AR29M66)	
	*	A-1401-875-A	D3 BOARD MOUNTED (KV-AR29N90)	
64		8-598-451-20	TUNER,FSS BTF-WG441 (KV-AR29M60/M68)	
		8-598-452-20	TUNER,FSS BTF-WG442 (KV-AR29M64/M66/M94)	
		8-598-593-20	TUNER,FSS BTF-WA421 (KV-AR29N90)	
65		4-046-797-01	SCREW (3 x 12) (+) BVTAP (KV-AR29M64/M94(INDIA)/M66/N90)	
		4-046-797-21	SCREW (3 x 12) (+) BVTAP (KV-AR29M60/M64(THAILAND)/M68)	
66	*	4-088-700-01	BRACKET MAIN	
67	*	A-1401-323-A	H2 BOARD MOUNTED (KV-AR29M60/M64(THAILAND)/M68)	
	*	A-1401-475-A	H2 BOARD MOUNTED (KV-AR29M64/M94(INDIA)	
	*	A-1400-973-A	H2 BOARD MOUNTED (KV-AR29M66/N90)	
68		1-251-658-21	SPLITTER RF (KV-AR29M64(THAILAND)/ AR29M64/M94(INDIA)/M66)	
69		1-555-110-00	P-P CABLE (KV-AR29M64 (THAILAND)/ AR29M64/M94(INDIA)/M66)	
70		4-066-680-02	BRACKET, HVC (KV-AR29M64/M94(INDIA)/M66/ AR29M64 (THAILAND))	
71	*	A-1347-164-A	V1 BOARD COMPLETE (KV-AR29M66)	
72		1-573-657-21	PLUG, F-PIN (KV-AR29N90)	

6-3. PICTURE TUBE

● : 7-685-648-79 SCREW +BVTP 3 × 12
■ : 7-685-663-71 SCREW +BVTP 4 × 16



REF. NO.		PART NO.	DESCRIPTION	REMARK
151		X-4040-465-1	BEZNET ASSY (KV-AR29M64 (THAILAND)/ AR29M64/M94 (INDIA)/M66)	152-154, 172,173
		X-4040-689-1	BEZNET ASSY (KV-AR29M68)	
		X-4040-722-1	BEZNET ASSY (KV-AR29M60)	
		X-4040-791-1	BEZNET ASSY (KV-AR29N90)	
152		4-036-405-11	SPRING, COMPRESSION	
153		4-086-448-01	BUTTON, POWER	
154	*	4-086-707-01	GUIDE, LIGHT	
155	⚠	8-735-056-05	PICTURE TUBE (M68LNH070X) (KV-AR29M60/M64/M66/M68/)	
	⚠	8-735-057-05	PICTURE TUBE (M68LNH070X) (KV-AR29M94(INDIA)/N90)	
156	*	3-704-372-11	HOLDER, HV CABLE (KV-AR29M60/M64 (THAILAND)/ AR29M66/M68/N90)	
	*	3-704-372-41	HOLDER, HV CABLE (KV-AR29M64/M94(INDIA)	
157		4-046-600-11	SPACER, DY (KV-AR29M64/M94 (INDIA)/M66/N90)	
		4-064-818-01	SPACER, DY (KV-AR29M60/M64 (THAILAND)/M68)	
158		X-4387-214-3	PERMALOY ASSY, CORRECTION	
		4-051-734-42	PIECE B (120), CONV, CORRECT (KV-AR29M60/M64 (THAILAND)/M68)	
159	⚠	8-451-494-31	DEFLECTION YOKE (Y29RSA-S)	
160	*	A-1401-415-A	C6 BOARD MOUNTED (KV-AR29M64 (THAILAND)/M68)	
	*	A-1401-567-A	C6 BOARD MOUNTED (KV-AR29M60)	
	*	A-1401-676-A	C6 BOARD MOUNTED (KV-AR29M66)	
	*	A-1401-681-A	C6 BOARD MOUNTED (KV-AR29M64/M94 (INDIA))	
	*	A-1401-876-A	C6 BOARD MOUNTED (KV-AR29N90)	
161	⚠	1-419-164-11	COIL, DEGAUSSING (KV-AR29N90)	
		1-419-294-11	COIL, DEGAUSSING (KV-AR29M66)	
		1-419-323-31	COIL, DEGAUSSING (KV-AR29M60/M64 (THAILAND)/M68)	
		1-424-742-21	COIL, DEGAUSSING (KV-AR29M64/M94 (INDIA)	

REF. NO.		PART NO.	DESCRIPTION	REMARK
162	*	4-063-935-21	CUSHION (50 X 550), DGC	
163		4-064-883-03	HOLDER, DGC	
164		1-452-896-61	COIL, ROTATION (KV-AR29M64/M94 (INDIA))	
		1-452-896-11	COIL, NA ROTATION (RT-200) (KV-AR29M66/N90)	
		1-452-896-91	COIL, NA ROTATION (KV-AR29M60/M64 (THAILAND)/M68)	
165	*	A-1401-327-A	VM1 BOARD MOUNTED (KV-AR29M64 (THAILAND)/M68)	
	*	A-1401-926-A	VM1 BOARD MOUNTED (KV-AR29M60)	
	*	A-1401-675-A	VM1 BOARD MOUNTED (KV-AR29M66)	
	*	A-1401-682-A	VM1 BOARD MOUNTED (KV-AR29M64/M94 (INDIA))	
	*	A-1401-877-A	VM1 BOARD MOUNTED (KV-AR29N90)	
166		4-369-318-41	SPRING, TENSION (KV-AR29M60/M64 (THAILAND)/M68)	
		4-369-318-61	SPRING, TENSION (KV-AR29M66/N90)	
		4-078-766-01	SPRING, EXTENSION (KV-AR29M64/M94 (INDIA))	
167		1-452-032-00	MAGNET, DISC	
168		1-452-094-00	CIRCULAR DISC MAGNET B	
169		4-077-228-02	PIECE, TLH CONVERGENCE	
170		4-079-376-01	BAND, DGC	
171		8-453-011-41	NA299-C	
172		4-088-697-01	DOOR	
173		4-087-491-11	SPRING (DOOR)	
		2-106-621-01	SPRING (KV-AR29M64/M94 (INDIA)/ M66/AR29M64 (THAILAND))	
174		4-046-765-12	SCREW TAPPING 7+ CROWN WASHER	
175	*	4-062-970-12	CLIP (29RSN), DGC	

A

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : µF, PF : µµF

COILS
- MMH : mH, UH : µH

REF NO.	PART NO.	DESCRIPTION	REMARK
	* A-1300-765-A	A BOARD COMPLETE (KV-AR29M60)	
	* A-1300-702-A	A BOARD COMPLETE (KV-AR29M64(THAILAND))	
	* A-1300-812-A	A BOARD COMPLETE (KV-AR29M64(INDIA)/M94)	
	* A-1300-763-A	A BOARD COMPLETE (KV-AR29M66)	
	* A-1300-730-A	A BOARD COMPLETE (KV-AR29M68)	
	* A-1300-781-A	A BOARD COMPLETE (KV-AR29N90)	
		**********	
	* 4-040-983-22	TERMINAL BOARD (D)	
	* 4-374-846-01	COVER, CAPACITOR, CAP TYPE	
	4-382-854-11	SCREW (M3X10), P, SW (+)	
	4-382-854-21	SCREW (M3X14), P, SW (+)	
		<CAPACITOR>	
C004	1-163-001-11	CERAMIC CHIP 220PF 10.00% 50V	
C005	1-163-001-11	CERAMIC CHIP 220PF 10.00% 50V	
C006	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	(KV-AR29M60/M64(THAILAND)/M68)
C006	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	(KV-AR29M64(INDIA)/M66/M94/N90)
C007	1-126-947-11	ELECT 47UF 20.00% 16V	
C013	1-163-021-91	CERAMIC CHIP 0.01UF 10.00% 50V	(KV-AR29M60/M64(THAILAND)/M68)
C013	1-162-970-11	CERAMIC CHIP 0.01UF 10.00% 25V	(KV-AR29M64(INDIA)/M94/M66/N90)
C014	1-126-947-11	ELECT 47UF 20.00% 25V	
C015	1-163-009-91	CERAMIC CHIP 0.001UF 10.00% 50V	
C016	1-163-243-11	CERAMIC CHIP 47PF 5.00% 50V	
C017	1-163-247-91	CERAMIC CHIP 68PF 5.00% 50V	
C018	1-163-243-11	CERAMIC CHIP 47PF 5.00% 50V	
C019	1-126-947-11	ELECT 47UF 20.00% 25V	
C020	1-163-259-91	CERAMIC CHIP 220PF 5.00% 50V	
C022	1-163-227-11	CERAMIC CHIP 10PF 0.50PF 50V	
C023	1-163-227-11	CERAMIC CHIP 10PF 0.50PF 50V	
C024	1-163-227-11	CERAMIC CHIP 10PF 0.50PF 50V	
C026	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	(KV-AR29M60/M64(THAILAND)/M68)
C026	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	(KV-AR29M64(INDIA)/M94/M66/N90)
C027	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	(KV-AR29M60/M64(THAILAND)/M68)
C027	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	(KV-AR29M64(INDIA)/M94/M66/N90)
C028	1-163-037-11	CERAMIC CHIP 0.022UF 10.00% 50V	
C030	1-126-965-91	ELECT 22UF 20.00% 50V	
C031	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	(KV-AR29M60/M64(THAILAND)/M68)
C031	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	(KV-AR29M64(INDIA)/M94/M66/N90)
C032	1-107-823-11	CERAMIC CHIP 0.47UF 10.00% 16V	
C041	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C042	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C043	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C044	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C047	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C048	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C050	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C051	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C053	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C056	1-163-263-11	CERAMIC CHIP 330PF 5.00% 50V	
C061	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C101	1-126-964-11	ELECT 10UF 20.00% 50V	(KV-AR29N90)
C103	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	(KV-AR29M60/M64(THAILAND)/M68)
C103	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	(KV-AR29M64(INDIA)/M94/M66/N90)
C104	1-126-935-11	ELECT 470UF 20.00% 16V	
C106	1-163-035-00	CERAMIC CHIP 0.047UF 50V	(KV-AR29N90)
C107	1-163-005-91	CERAMIC CHIP 470PF 10.00% 50V	
C108	1-126-947-11	ELECT 47UF 20.00% 16V	
C109	1-163-005-91	CERAMIC CHIP 470PF 10.00% 50V	
C110	1-163-005-91	CERAMIC CHIP 470PF 10.00% 50V	
C111	1-163-005-91	CERAMIC CHIP 470PF 10.00% 50V	
C112	1-126-947-11	ELECT 47UF 20.00% 16V	
C113	1-126-935-11	ELECT 470UF 20.00% 16V	
C114	1-126-967-11	ELECT 47UF 20.00% 50V	
C115	1-126-967-11	ELECT 47UF 20.00% 50V	(KV-AR29M64/M66/M94)
C116	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	(EXCEPT KV-AR29M60/M68/N90)
C117	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	(EXCEPT KV-AR29M60/M68/N90)
C118	1-110-501-11	CERAMIC CHIP 0.33UF 10.00% 16V	
C300	1-164-505-11	CERAMIC CHIP 2.2UF 16V	(KV-AR29M60/N90)
C301	1-126-935-11	ELECT 470UF 20.00% 16V	
C302	1-163-005-91	CERAMIC CHIP 470PF 10.00% 50V	
C303	1-126-959-11	ELECT 0.47UF 20.00% 50V	(EXCEPT KV-AR29M64(INDIA)/M94)
C303	1-125-798-91	ELECT 0.47UF 20.00% 63V	(KV-AR29M64(INDIA)/M94)
C304	1-126-967-11	ELECT 47UF 20.00% 50V	
C305	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	(KV-AR29M60/M64(THAILAND)/M68)
C305	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	(KV-AR29M64(INDIA)/M94/M66/N90)
C306	1-163-233-91	CERAMIC CHIP 18PF 5.00% 50V	
C307	1-163-233-91	CERAMIC CHIP 18PF 5.00% 50V	
C308	1-163-259-91	CERAMIC CHIP 220PF 5.00% 50V	
C309	1-137-378-11	MYLAR 0.22UF 5.00% 50V	
C311	1-126-964-11	ELECT 10UF 20.00% 50V	(KV-AR29M60/M68)

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REF NO.	PART NO.	DESCRIPTION	REMARK
C311	1-126-963-11	ELECT 4.7UF 20.00% 50V (EXCEPT KV-AR29M60/M68)	
C312	1-164-346-11	CERAMIC CHIP 1UF 16V	
C313	1-164-346-11	CERAMIC CHIP 1UF 16V	
C314	1-164-346-11	CERAMIC CHIP 1UF 16V	
C315	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/M64(THAILAND)/M68)	
C315	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V (KV-AR29M64(INDIA)/M94/M66/N90)	
C316	1-126-934-11	ELECT 220UF 20.00% 16V	
C317	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/M64(THAILAND)/M68)	
C317	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V (KV-AR29M64(INDIA)/M94/M66/N90)	
C318	1-163-031-91	CERAMIC CHIP 0.01UF 50V	
C319	1-163-031-91	CERAMIC CHIP 0.01UF 50V	
C320	1-163-031-91	CERAMIC CHIP 0.01UF 50V	
C321	1-164-489-11	CERAMIC CHIP 0.22UF 10.00% 16V	
C322	1-163-005-91	CERAMIC CHIP 470PF 10.00% 50V	
C324	1-163-017-00	CERAMIC CHIP 0.0047UF 10.00% 50V	
C325	1-126-960-11	ELECT 1UF 20.00% 50V (EXCEPT KV-AR29M64(INDIA)/M94)	
C325	1-125-799-91	ELECT 1UF 20.00% 63V (KV-AR29M64(INDIA)/M94)	
C327	1-126-965-91	ELECT 22UF 20.00% 50V	
C328	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/M64(THAILAND)/M68)	
C328	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V (KV-AR29M64(INDIA)/M94/M66/N90)	
C329	1-126-963-11	ELECT 4.7UF 20.00% 50V (KV-AR29M60/N90)	
C330	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/M64(THAILAND)/M68)	
C330	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V (KV-AR29M64(INDIA)/M94/M66/N90)	
C331	1-126-963-11	ELECT 4.7UF 20.00% 50V	
C332	1-126-963-11	ELECT 4.7UF 20.00% 50V	
C335	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/N90)	
C336	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/M64(THAILAND)/M68)	
C336	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V (KV-AR29M64(INDIA)/M94/M66/N90)	
C337	1-126-961-11	ELECT 2.2UF 20.00% 50V (EXCEPT KV-AR29M64(INDIA)/M94)	
C337	1-125-800-91	ELECT 2.2UF 20.00% 63V (KV-AR29M64(INDIA)/M94)	
C341	1-115-340-11	CERAMIC CHIP 0.22UF 10.00% 25V	
C342	1-163-259-91	CERAMIC CHIP 220PF 5.00% 50V	
C347	1-126-933-11	ELECT 100UF 20.00% 16V (KV-AR29M60/N90)	
C348	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/N90)	
C349	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/N90)	
C350	1-163-031-91	CERAMIC CHIP 0.01UF 50V (KV-AR29M60)	
C351	1-126-964-11	ELECT 10UF 20.00% 50V (KV-AR29M60/N90)	
C352	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/N90)	
C353	1-126-960-11	ELECT 1UF 20.00% 50V (EXCEPT KV-AR29M64(INDIA)/M94)	
C353	1-125-799-91	ELECT 1UF 20.00% 63V (KV-AR29M64(INDIA)/M94)	
C356	1-126-947-11	ELECT 47UF 20.00% 16V	

REF NO.	PART NO.	DESCRIPTION	REMARK
C357	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/M64(THAILAND)/M68)	
C357	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V (KV-AR29M64(INDIA)/M66/M94/N90)	
C358	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C359	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C502	1-163-145-00	CERAMIC CHIP 0.0015UF 5.00% 50V	
C503	1-126-964-11	ELECT 10UF 20.00% 50V	
C506	1-107-638-11	ELECT 33UF 20.00% 160V	
C507	1-161-830-00	CERAMIC 0.0047UF 500V	
C510	1-102-112-00	CERAMIC 330PF 10.00% 50V	
C512	1-163-989-11	CERAMIC CHIP 0.033UF 10.00% 25V	
C513	1-163-263-11	CERAMIC CHIP 330PF 5.00% 50V	
C514	1-106-383-00	MYLAR 0.047UF 10.00% 200V	
C517	1-164-182-11	CERAMIC CHIP 0.0033UF 10.00% 50V	
C518	1-104-665-11	ELECT 100UF 20.00% 10V	
C519	1-102-212-00	CERAMIC 820PF 10.00% 500V	
C521	1-126-934-11	ELECT 220UF 20.00% 16V	
C522	1-126-933-11	ELECT 100UF 20.00% 16V	
C523	1-102-002-00	CERAMIC 680PF 10.00% 500V	
C524	1-126-967-11	ELECT 47UF 20.00% 50V	
C526	1-130-495-00	MYLAR 0.1UF 5.00% 50V	
C527	1-102-820-00	CERAMIC 330PF 5.00% 50V	
C528	1-162-116-00	CERAMIC 680PF 10.00% 2KV	
C530	1-137-372-11	MYLAR 0.022UF 5.00% 50V	
C531	1-107-903-11	ELECT 2.2UF 20.00% 50V	
C532	1-126-941-11	ELECT 470UF 20.00% 25V	
C533	1-126-941-11	ELECT 470UF 20.00% 25V	
C534	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (KV-AR29M60/M64(THAILAND)/M68)	
C534	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V (KV-AR29M64(INDIA)/M66/M94/N90)	
C536	1-130-495-00	MYLAR 0.1UF 5.00% 50V	
C537	1-126-969-11	ELECT 220UF 20.00% 50V	
C538	1-127-717-11	FILM 19000PF 3% 1.2KV	
C539	⚠ 1-110-541-91	FILM 0.056UF 5.00% 630V	
C540	1-136-171-00	FILM 0.33UF 5.00% 50V	
C546	1-165-319-11	CERAMIC CHIP 0.1UF 50V	
C549	1-163-017-00	CERAMIC CHIP 0.0047UF 10.00% 50V	
C550	1-106-220-00	MYLAR 0.1UF 10.00% 100V	
C551	1-126-960-11	ELECT 1UF 20.00% 50V (EXCEPT KV-AR29M64(INDIA)/M94)	
C551	1-125-799-91	ELECT 1UF 20.00% 63V (KV-AR29M64(INDIA)/M94)	
C552	1-162-116-00	CERAMIC 680PF 10.00% 2KV	
C553	1-162-116-00	CERAMIC 680PF 10.00% 2KV	
C554	1-137-417-11	MYLAR 0.0047UF 10.00% 200V	
C556	1-126-941-11	ELECT 470UF 20.00% 25V	
C557	1-126-941-11	ELECT 470UF 20.00% 25V	
C558	1-123-024-21	ELECT 33UF 160V	
C560	1-102-228-00	CERAMIC 470PF 10.00% 500V	
C561	1-129-898-00	FILM 0.0022UF 5.00% 630V	
C562	1-102-228-00	CERAMIC 470PF 10.00% 500V	
C564	1-163-038-91	CERAMIC CHIP 0.1UF 25V	
C565	1-107-655-11	ELECT 47UF 20.00% 250V	
C566	1-102-244-00	CERAMIC 220PF 10.00% 500V	
C567	⚠ 1-115-520-21	FILM 0.68UF 5.00% 250V	
C568	1-102-228-00	CERAMIC 470PF 10.00% 500V	
C570	1-115-522-11	FILM 1UF 5.00% 250V	
C572	1-117-661-11	FILM 0.15UF 5.00% 250V	
C573	1-106-387-00	MYLAR 0.068UF 10.00% 200V	
C574	1-104-709-11	ELECT 4.7UF 160V	
C576	1-130-495-00	MYLAR 0.1UF 5.00% 50V	

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REF NO.		PART NO.	DESCRIPTION			
C577		1-106-395-00	MYLAR	0.15UF	10.00%	200V
C582		1-164-004-11	CERAMIC CHIP (KV-AR29M60/M64(THAILAND)/M68)	0.1UF	10.00%	25V
C582		1-107-826-11	CERAMIC CHIP (KV-AR29M64(INDIA)/M66/M94/N90)	0.1UF	10.00%	16V
C584		1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C586		1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C600	⚠	1-115-165-11	MYLAR	0.1UF	20.00%	250V
C602	⚠	1-115-165-11	MYLAR	0.1UF	20.00%	250V
C603		1-126-947-11	ELECT (EXCEPT KV-AR29N90)	47UF	20.00%	25V
C603		1-249-429-11	CARBON (KV-AR29N90)	10K	5%	1/4W
C604		1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C605	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C606	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C607		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C608		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C609		1-126-968-11	ELECT	100UF	20.00%	50V
C610		1-126-964-11	ELECT	10UF	20.00%	50V
C611		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C612		1-161-830-00	CERAMIC	0.0047UF	99%	500V
C613		1-125-906-11	ELECT (EXCEPT KV-AR29N90)	560UF	20.00%	450V
C613		1-113-611-11	ELECT(BLOCK) (KV-AR29N90)	820UF	20.00%	250V
C614		1-126-964-11	ELECT	10UF	20.00%	50V
C615	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C616		1-130-202-00	FILM (EXCEPT KV-AR29N90)	0.022UF	5.00%	400V
C617		1-107-792-11	CERAMIC (EXCEPT KV-AR29N90)	100PF	5.00%	1KV
C618		1-125-893-11	FILM	680PF	3.00%	1.5KV
C619	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C620		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C621		1-102-114-00	CERAMIC	470PF	10.00%	50V
C622		1-102-074-00	CERAMIC	0.001UF	10.00%	50V
C623		1-104-665-11	ELECT	100UF	20.00%	25V
C624		1-104-331-11	CERAMIC	0.0022UF	10.00%	1KV
C626		1-102-002-00	CERAMIC	680PF	10.00%	500V
C629		1-126-964-11	ELECT	10UF	20.00%	50V
C630		1-125-494-11	ELECT(BLOCK)	560UF	20.00%	160V
C631		1-128-550-11	ELECT	2200UF	20.00%	50V
C632		1-128-550-11	ELECT (KV-AR29M60)	2200UF	20.00%	50V
C632		1-126-936-11	ELECT (EXCEPT KV-AR29M60)	3300UF	20.00%	16V
C633		1-104-999-11	MYLAR	0.1UF	10.00%	200V
C634		1-126-933-11	ELECT	100UF	20.00%	16V
C635		1-126-934-11	ELECT	220UF	20.00%	16V
C636		1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C638		1-161-830-00	CERAMIC	0.0047UF		500V
C641		1-102-002-00	CERAMIC	680PF	10.00%	500V
C642		1-126-943-11	ELECT	2200UF	20.00%	25V
C643		1-104-665-11	ELECT	100UF	20.00%	10V
C644		1-104-331-11	CERAMIC	0.0022UF	10.00%	1KV
C645		1-137-605-11	MYLAR	0.01UF	10.00%	250V
C646		1-107-679-91	ELECT	10UF	20.00%	450V
C647		1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
C649		1-126-940-11	ELECT	330UF	20.00%	25V
C650		1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
C651		1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C652		1-126-965-91	ELECT	22UF	20.00%	50V

REF NO.		PART NO.	DESCRIPTION			
C653		1-126-947-11	ELECT	47UF	20.00%	25V
C655	⚠	1-119-886-51	CERAMIC	470PF	10.00%	250V
C657		1-101-821-00	CERAMIC	0.0022UF		500V
C659		1-162-116-00	CERAMIC	680PF	10.00%	2KV
C912		1-164-004-11	CERAMIC CHIP (KV-AR29M60/M64(THAILAND)/M68)	0.1UF	10.00%	25V
C912		1-107-826-11	CERAMIC CHIP (KV-AR29M64(INDIA)/M66/M94/N90)	0.1UF	10.00%	16V
C913		1-104-665-11	ELECT	100UF	20.00%	10V
C915		1-163-251-11	CERAMIC CHIP (KV-AR29M60/M64(THAILAND)/M68)	100PF	5.00%	50V
C916		1-163-251-11	CERAMIC CHIP (KV-AR29M60/M64(THAILAND)/M68)	100PF	5.00%	50V
C917		1-163-251-11	CERAMIC CHIP (KV-AR29M60/M64(THAILAND)/M68)	100PF	5.00%	50V
C918		1-163-251-11	CERAMIC CHIP (KV-AR29M60/M64(THAILAND)/M68)	100PF	5.00%	50V
			<FILTER BLOCK>			
CM604	*	1-691-134-11	PIN, CONNECTOR (PC BOARD) 2P (KV-AR29M64(INDIA)/M94)			
			<CONNECTOR>			
CN101	*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P			
CN102	*	1-779-889-11	CONNECTOR, BOARD TO BOARD 8P			
CN104		1-695-915-11	TAB (CONTACT)			
CN105		1-695-915-11	TAB (CONTACT)			
CN106	*	1-564-506-11	PLUG, CONNECTOR 3P			
CN201	*	1-564-508-11	PLUG, CONNECTOR 5P			
CN202	*	1-508-847-00	PIN, CONNECTOR 4P			
CN301	*	1-774-813-11	CONNECTOR, BOARD TO BOARD 7P (KV-AR29M66)			
CN302	*	1-779-889-11	CONNECTOR, BOARD TO BOARD 8P			
CN303	*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P			
CN305	*	1-564-509-11	PLUG, CONNECTOR 6P			
CN307	*	1-774-813-11	CONNECTOR, BOARD TO BOARD 7P (KV-AR29M66)			
CN501	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN502	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN503	*	1-564-510-11	PLUG, CONNECTOR 7P			
CN504		1-695-915-11	TAB (CONTACT)			
CN505	*	1-564-508-11	PLUG, CONNECTOR 5P			
CN507	*	1-564-509-11	PLUG, CONNECTOR 6P			
CN508		1-695-915-11	TAB (CONTACT) (EXCEPT KV-AR29N90)			
CN601	*	1-580-843-11	PIN, CONNECTOR (POWER)			
CN602	*	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P (KV-AR29M66/N90)			
CN603	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN604	*	1-691-134-11	PIN, CONNECTOR (PC BOARD) 2P (EXCEPT KV-AR29M66/N90)			
CN604	*	1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P (KV-AR29M66/N90)			
CN608	*	1-564-507-11	PLUG, CONNECTOR 4P			
CN904	*	1-564-512-11	PLUG, CONNECTOR 9P			
			<DIODE>			
D001		8-719-081-97	MMDL914T1			
D002		8-719-081-97	MMDL914T1			
D004		1-216-295-91	SHORT CHIP	0		
D005		8-719-081-97	MMDL914T1			
D006		1-216-295-91	SHORT CHIP	0		

REF NO.	PART NO.	DESCRIPTION	REMARK
D007	8-719-081-97	MMDL914T1	
D008	8-719-081-97	MMDL914T1	
D009	8-719-081-97	MMDL914T1	
D010	8-719-158-35	RD9.1S-B	
D100	8-719-081-97	MMDL914T1 (EXCEPT KV-AR29N90)	
D300	1-216-295-91	SHORT CHIP 0	
D301	8-719-081-97	MMDL914T1	
D306	8-719-081-97	MMDL914T1	
D307	8-719-081-97	MMDL914T1	
D308	8-719-081-97	MMDL914T1	
D309	8-719-069-54	UDZSTE-175.1B (KV-AR29M60/M64(THAILAND)/M68)	
D309	8-719-159-10	RD5.1SB-T2 (KV-AR29M64(INDIA)/M94/M66/N90)	
D311	8-719-081-97	MMDL914T1	
D312	8-719-081-97	MMDL914T1	
D313	8-719-081-97	MMDL914T1	
D315	8-719-081-97	MMDL914T1	
D316	8-719-037-06	RD7.5SB1-T1 (KV-AR29M60/M68/N90)	
D316	8-719-037-20	DIODE RD11SB2-T1 (KV-AR29M64/M94/M66)	
D319	8-719-158-35	RD9.1S-B	
D320	8-719-158-35	RD9.1S-B (EXCEPT KV-AR29M66)	
D320	8-719-069-60	UDZSTE-179.1B (KV-AR29M66)	
D321	8-719-158-35	RD9.1S-B (EXCEPT KV-AR29M66)	
D321	8-719-069-60	UDZSTE-179.1B (KV-AR29M66)	
D322	8-719-158-35	RD9.1S-B	
D504	8-719-075-05	DIODE FR104-A5	
D505	8-719-081-97	MMDL914T1	
D506	8-719-911-19	1SS119-25	
D507	8-719-081-97	MMDL914T1	
D508	8-719-081-97	MMDL914T1	
D509	1-216-073-91	RES-CHIP 10K 5% 1/10W	
D510	8-719-081-97	MMDL914T1	
D511	8-719-081-97	MMDL914T1	
D512	8-719-081-97	MMDL914T1	
D513	8-719-908-03	GP08D	
D517	8-719-312-71	RS3FS	
D518	8-719-074-35	RU4AM-T4	
D519	8-719-312-71	RS3FS	
D521	8-719-075-05	DIODE FR104-A5 (KV-AR29M60/M64(THAILAND)/M68)	
D521	8-719-302-43	EL1Z (KV-AR29M64(INDIA)/M94/M66/N90)	
D522	8-719-028-45	D2L20U	
D523	8-719-075-05	DIODE FR104-A5 (KV-AR29M60/M64(THAILAND)/M68)	
D523	8-719-302-43	EL1Z (KV-AR29M64(INDIA)/M94/M66/N90)	
D527	8-719-908-03	GP08D	
D528	8-719-908-03	GP08D	
D532	8-719-081-97	MMDL914T1	
D534	8-719-081-97	MMDL914T1	
D600	8-719-911-19	1SS119-25	
D602	8-719-911-19	1SS119-25	
D603	8-719-150-92	RD33EB3T	
D604	8-719-028-72	RGP02-17EL-6433	
D605	8-719-510-22	D3SB60	
D606	8-719-108-18	5P-6M	
D607	8-719-081-97	MMDL914T1	
D608	8-719-110-53	RD20ES-B2	
D609	8-719-311-31	RU-1P (EXCEPT KV-AR29N90)	
D610	8-719-043-76	AK04V0	
D611	8-719-046-74	AU-01Z-V1	
D612	8-719-043-52	F5KQ60	
D613	8-719-046-74	AU-01Z-V1	
D614	8-719-046-74	AU-01Z-V1	
D616	8-719-083-56	DIODE 30DF2N-FC5	
D620	8-719-110-72	RD30ESB2	
D621	8-719-071-38	D5S6M	
D622	8-719-029-04	D5L60	
D623	8-719-056-91	DTZ-TT11-15B	
D624	8-719-081-97	MMDL914T1	
D625	8-719-977-28	DTZ10B	
D628	8-719-911-19	1SS119-25	
D631	8-719-068-00	ERC04-06SE	
D632	8-719-068-00	ERC04-06SE	
D633	8-719-948-45	ERA22-08	
D634	8-719-081-97	MMDL914T1	
D635	8-719-081-97	MMDL914T1	
D636	8-719-510-02	D1NS4	
D637	8-719-109-96	RD6.8ES-B1	
D638	8-719-200-82	11ES2 (KV-AR29M60/M64(THAILAND)/M68)	
D638	8-719-510-48	D1N20R (KV-AR29M64(INDIA)/M94/M66/N90)	
		<CONNECTOR>	
DY1	* 1-580-798-11	CONNECTOR PIN (DY) 6P	
		<FERRITE BEAD>	
FB101	1-216-295-91	SHORT CHIP 0 (KV-AR29M64/M94/M66)	
FB102	1-216-295-91	SHORT CHIP 0 (KV-AR29M64/M94/M66)	
FB300	1-412-911-31	FERRITE 0UH	
FB501	1-410-397-21	FERRITE 1.1UH	
FB502	1-410-397-21	FERRITE 1.1UH	
FB600	1-410-397-21	FERRITE 1.1UH	
FB601	1-410-397-21	FERRITE 1.1UH	
FB602	1-410-397-21	FERRITE 1.1UH	
FB603	1-410-397-21	FERRITE 1.1UH	
FB604	1-412-911-31	FERRITE 0UH	
FB605	1-412-911-31	FERRITE 0UH	
FB606	1-412-911-31	FERRITE 0UH	
FB608	1-412-911-31	FERRITE 0UH	
FB611	1-410-397-21	FERRITE 1.1UH	
FB612	1-410-397-21	FERRITE 1.1UH	
FB613	1-410-397-21	FERRITE 1.1UH (EXCEPT KV-AR29N90)	
FB615	1-410-397-21	FERRITE 1.1UH	
		<IC>	
IC001	8-752-933-33	IC CXP750097-605S (KV-AR29M60/M64(THAILAND)/M68)	
IC001	8-752-932-89	IC CXP750097-603S (KV-AR29M64(INDIA)/M94)	
IC001	8-752-932-96	IC CXP750097-604S (KV-AR29N90)	
IC002	8-759-371-21	MM1319AFBE	
IC003	8-759-672-78	M24C08-BN6(A)	
IC100	8-759-042-02	S-80743AL-A7-S (EXCEPT KV-AR29N90)	
IC301	8-752-095-72	CXA2159S	
IC302	8-759-666-90	IC TDA9181T (KV-AR29M60)	
IC302	8-759-672-27	TDA9183T (KV-AR29N90)	
IC502	8-759-700-07	NJM2903M	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A

REF NO.	PART NO.	DESCRIPTION	REMARK
IC503	8-759-980-58	TDA8172	
IC601	8-749-019-09	IC STR-F6456S	
IC602	8-749-920-61	SE-135N	
IC603	8-759-701-59	NJM78M09FA	
IC604	8-759-231-53	TA7805S	
		<CHIP CONDUCTOR>	
JR001	1-216-295-91	SHORT CHIP 0	
JR002	1-216-295-91	SHORT CHIP 0	
JR003	1-216-295-91	SHORT CHIP 0	
JR004	1-216-295-91	SHORT CHIP 0	
JR006	1-216-295-91	SHORT CHIP 0	
JR007	1-216-295-91	SHORT CHIP 0	
JR008	1-216-295-91	SHORT CHIP 0	
JR010	1-216-295-91	SHORT CHIP 0	
JR012	1-216-295-91	SHORT CHIP 0	
JR014	1-216-295-91	SHORT CHIP 0	
JR015	1-216-295-91	SHORT CHIP 0	
JR016	1-216-295-91	SHORT CHIP 0	
JR020	1-216-295-91	SHORT CHIP 0	
JR022	1-216-295-91	SHORT CHIP 0	
JR023	1-216-295-91	SHORT CHIP 0	
JR024	1-216-295-91	SHORT CHIP 0	
JR025	1-216-295-91	SHORT CHIP 0	
JR028	1-216-295-91	SHORT CHIP 0	
JR030	1-216-295-91	SHORT CHIP 0	
JR031	1-216-295-91	SHORT CHIP 0	
JR102	1-216-295-91	SHORT CHIP 0 (EXCEPT KV-AR29N90)	
JR107	1-216-295-91	SHORT CHIP 0	
JR108	1-216-295-91	SHORT CHIP 0 (KV-AR29N90)	
JR111	1-216-295-91	SHORT CHIP 0 (KV-AR29N90)	
JR214	1-216-295-91	SHORT CHIP 0	
JR304	1-216-295-91	SHORT CHIP 0	
JR308	1-216-295-91	SHORT CHIP 0 (KV-AR29M60/N90)	
JR309	1-216-295-91	SHORT CHIP 0	
JR310	1-216-295-91	SHORT CHIP 0	
JR311	1-216-295-91	SHORT CHIP 0	
JR500	1-216-295-91	SHORT CHIP 0	
JR501	1-216-295-91	SHORT CHIP 0	
JR502	1-216-295-91	SHORT CHIP 0	
JR503	1-216-295-91	SHORT CHIP 0	
JR600	1-216-295-91	SHORT CHIP 0	
		<COIL>	
L002	1-414-856-11	INDUCTOR 10UH	
L003	1-414-180-11	INDUCTOR 3.3UH	
L004	1-249-395-11	CARBON 15 5% 1/4W	
L005	1-414-233-22	FERRITE 0UH	
L101	1-414-856-11	INDUCTOR 10UH	
L102	1-414-189-31	INDUCTOR 100UH	
L103	1-414-856-11	INDUCTOR 10UH	
L104	1-414-856-11	INDUCTOR 10UH	
L105	1-414-185-41	INDUCTOR 22UH	
L105	1-414-189-31	INDUCTOR 100UH	
L301	1-414-189-31	INDUCTOR 100UH	
L302	1-414-185-41	INDUCTOR 22UH	
L303	1-414-189-31	INDUCTOR 100UH (KV-AR29M60/N90)	
L304	1-414-189-31	INDUCTOR 100UH (KV-AR29M60/N90)	
L501	1-412-525-31	INDUCTOR 10UH	
L502	1-416-947-11	COIL, AIR-CORE	
L503	1-412-525-31	INDUCTOR 10UH	
L504	1-412-525-31	INDUCTOR 10UH	
L507	1-459-111-00	INDUCTOR 10MH	
L511	1-406-977-21	INDUCTOR 100UH (KV-AR29M60/M64(THAILAND)/M68)	
L511	1-406-977-71	INDUCTOR 0UH (KV-AR29M64(INDIA)/M66/M94/N90)	
L513	1-412-551-31	INDUCTOR 1.5MH	
L515	1-459-104-00	COIL, WITH CORE (EXCEPT KV-AR29M64(INDIA)/M94)	
L515	1-459-104-00	INDUCTOR 10MH (KV-AR29M64(INDIA)/M94)	
L518	1-414-187-11	INDUCTOR 47UH	
L601	1-412-527-11	INDUCTOR 15UH	
L905	1-414-856-11	INDUCTOR 10UH	
		<PHOTO COUPLER>	
PH600	⚠ 8-749-924-35	ON3171-R	
		<IC LINK>	
PS600	1-533-597-41	LINK, IC	
PS601	1-533-597-41	LINK, IC	
		<TRANSISTOR>	
Q001	8-729-216-22	2SA1162-G	
Q002	8-729-010-25	MSD601-RT1 (KV-AR29M60/M64(THAILAND)/M68)	
Q002	8-729-230-49	2SC2712-YG (KV-AR29M64(INDIA)/M94/M66/N90)	
Q101	8-729-010-25	MSD601-RT1 (KV-AR29M60/M64(THAILAND)/M68)	
Q101	8-729-230-49	2SC2712-YG (KV-AR29M64(INDIA)/M94/M66/N90)	
Q301	8-729-216-22	2SA1162-G	
Q302	8-729-230-49	2SC2712-YG (KV-AR29M60/N90)	
Q303	8-729-216-22	2SA1162-G (KV-AR29M60/N90)	
Q304	8-729-216-22	2SA1162-G	
Q305	8-729-216-22	2SA1162-G (KV-AR29M60/N90)	
Q306	8-729-230-49	2SC2712-YG (KV-AR29M60/N90)	
Q307	8-729-230-49	2SC2712-YG (EXCEPT KV-AR29M66)	
Q308	8-729-216-22	2SA1162-G	
Q309	8-729-421-19	UN2213 (KV-AR29M60)	
Q310	8-729-230-49	2SC2712-YG (KV-AR29M60/N90)	
Q311	8-729-010-25	MSD601-RT1 (KV-AR29M60/M64(THAILAND)/M68)	
Q311	8-729-230-49	2SC2712-YG (KV-AR29M64(INDIA)/M94/M66/N90)	
Q312	8-729-216-22	2SA1162-G	
Q313	8-729-010-25	MSD601-RT1 (KV-AR29M60/M64(THAILAND)/M68)	
Q313	8-729-230-49	2SC2712-YG (KV-AR29M64(INDIA)/M94/M66/N90)	
Q314	8-729-216-22	2SA1162-G (KV-AR29M60/N90)	
Q315	8-729-421-19	UN2213	
Q316	8-729-216-22	2SA1162-G (KV-AR29M60/N90)	
Q317	8-729-216-22	2SA1162-G (KV-AR29M60/N90)	
Q501	8-729-216-22	2SA1162-G	
Q502	8-729-216-22	2SA1162-G	
Q503	8-729-010-25	MSD601-RT1 (KV-AR29M60/M64(THAILAND)/M68)	

REF NO.	PART NO.	DESCRIPTION	REMARK
Q503	8-729-230-49	2SC2712-YG (KV-AR29M64(INDIA)/M94/M66/N90)	
Q505	8-729-931-45	IRF614	
Q506	8-729-119-80	2SC2688-LK	
Q507	8-729-216-22	2SA1162-G	
Q509	8-729-010-25	MSD601-RT1 (KV-AR29M60/M64(THAILAND)/M68)	
Q509	8-729-230-49	2SC2712-YG (KV-AR29M64(INDIA)/M94/M66/N90)	
Q511	8-729-048-07	2SD2578-CA	
Q600	8-729-119-78	2SC2785-HFE	
Q601	8-729-023-22	2SD2114K	
Q602	8-729-010-25	MSD601-RT1 (KV-AR29M60/M64(THAILAND)/M68)	
Q602	8-729-230-49	2SC2712-YG (KV-AR29M64(INDIA)/M94/M66/N90)	
Q603	8-729-424-08	UN2111	
Q604	8-729-200-17	2SA1091-O	
Q605	8-729-044-30	2SK2845-LB102	
Q606	8-729-010-25	MSD601-RT1 (KV-AR29M60/M64(THAILAND)/M68)	
Q606	8-729-230-49	2SC2712-YG (KV-AR29M64(INDIA)/M94/M66/N90)	
Q607	8-729-823-22	2SC3576	
Q608	8-729-010-25	MSD601-RT1 (KV-AR29M60/M64(THAILAND)/M68)	
Q608	8-729-230-49	2SC2712-YG (KV-AR29M64(INDIA)/M94/M66/N90)	

<RESISTOR>

REF NO.	PART NO.	DESCRIPTION			REMARK
R001	1-414-233-22	FERRITE	0UH		
R002	1-216-025-11	RES-CHIP	100	5%	1/10W
R003	1-216-073-91	RES-CHIP	10K	5%	1/10W
R004	1-216-025-11	RES-CHIP	100	5%	1/10W
R005	1-216-025-11	RES-CHIP	100	5%	1/10W
R006	1-216-689-11	RES-CHIP (KV-AR29N90)	39K	5%	1/10W
R007	1-216-033-00	RES-CHIP (KV-AR29N90)	220	5%	1/10W
R008	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R009	1-216-065-91	RES-CHIP (KV-AR29N90)	4.7K	5%	1/10W
R010	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R011	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R012	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R013	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R014	1-216-025-11	RES-CHIP	100	5%	1/10W
R015	1-216-025-11	RES-CHIP	100	5%	1/10W
R017	1-216-049-11	RES-CHIP (KV-AR29M64/M66/M94)	1K	5%	1/10W
R018	1-216-033-00	RES-CHIP	220	5%	1/10W
R019	1-216-073-91	RES-CHIP	10K	5%	1/10W
R020	1-216-045-00	RES-CHIP	680	5%	1/10W
R021	1-216-073-91	RES-CHIP	10K	5%	1/10W
R022	1-216-295-91	SHORT CHIP	0		
R023	1-216-049-11	RES-CHIP	1K	5%	1/10W
R024	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R025	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R026	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R027	1-216-049-11	RES-CHIP	1K	5%	1/10W
R028	1-216-073-91	RES-CHIP (EXCEPT KV-AR29N90)	10K	5%	1/10W
R028	1-216-049-11	RES-CHIP (KV-AR29N90)	1K	5%	1/10W
R029	1-216-049-11	RES-CHIP	1K	5%	1/10W
R030	1-216-025-11	RES-CHIP (KV-AR29N90)	100	5%	1/10W
R031	1-216-049-11	RES-CHIP	1K	5%	1/10W
R032	1-216-025-11	RES-CHIP	100	5%	1/10W
R034	1-216-049-11	RES-CHIP	1K	5%	1/10W
R035	1-216-025-11	RES-CHIP	100	5%	1/10W
R036	1-216-025-11	RES-CHIP (KV-AR29M64/M66/M94)	100	5%	1/10W
R037	1-216-025-11	RES-CHIP (EXCEPT KV-AR29N90)	100	5%	1/10W
R037	1-216-077-91	RES-CHIP (KV-AR29N90)	15K	5%	1/10W
R038	1-216-049-11	RES-CHIP (EXCEPT KV-AR29N90)	1K	5%	1/10W
R040	1-216-025-11	RES-CHIP	100	5%	1/10W
R041	1-216-025-11	RES-CHIP	100	5%	1/10W
R042	1-216-295-91	SHORT CHIP	0		
R043	1-216-049-11	RES-CHIP	1K	5%	1/10W
R044	1-216-025-11	RES-CHIP	100	5%	1/10W
R045	1-414-233-22	FERRITE	0UH		
R046	1-216-049-11	RES-CHIP	1K	5%	1/10W
R047	1-414-233-22	FERRITE	0UH		
R048	1-216-073-91	RES-CHIP	10K	5%	1/10W
R050	1-216-073-91	RES-CHIP	10K	5%	1/10W
R053	1-216-049-11	RES-CHIP	1K	5%	1/10W
R058	1-216-295-91	SHORT CHIP	0		
R059	1-216-295-91	SHORT CHIP	0		
R060	1-216-295-91	SHORT CHIP	0		
R061	1-216-295-91	SHORT CHIP	0		
R062	1-216-041-00	RES-CHIP	470	5%	1/10W
R063	1-216-041-00	RES-CHIP	470	5%	1/10W
R064	1-216-041-00	RES-CHIP	470	5%	1/10W
R065	1-216-041-00	RES-CHIP	470	5%	1/10W
R066	1-216-049-11	RES-CHIP	1K	5%	1/10W
R067	1-216-049-11	RES-CHIP	1K	5%	1/10W
R068	1-216-041-00	RES-CHIP	470	5%	1/10W
R101	1-216-025-11	RES-CHIP (EXCEPT KV-AR29N90)	100	5%	1/10W
R102	1-216-025-11	RES-CHIP (EXCEPT KV-AR29N90)	100	5%	1/10W
R103	1-216-025-11	RES-CHIP (KV-AR29N90)	100	5%	1/10W
R104	1-216-025-11	RES-CHIP (KV-AR29N90)	100	5%	1/10W
R105	1-216-295-91	SHORT CHIP	0		
R106	1-216-049-11	RES-CHIP (KV-AR29N90)	1K	5%	1/10W
R109	1-216-041-00	RES-CHIP	470	5%	1/10W
R111	1-216-025-11	RES-CHIP	100	5%	1/10W
R112	1-216-025-11	RES-CHIP	100	5%	1/10W
R113	1-216-025-11	RES-CHIP	100	5%	1/10W
R114	1-216-065-91	RES-CHIP (KV-AR29N90)	4.7K	5%	1/10W
R115	1-216-065-91	RES-CHIP (KV-AR29N90)	4.7K	5%	1/10W
R225	1-216-033-00	RES-CHIP	220	5%	1/10W
R226	1-216-033-00	RES-CHIP	220	5%	1/10W
R227	1-216-033-00	RES-CHIP	220	5%	1/10W
R237	1-216-295-91	SHORT CHIP	0		
R301	1-216-113-00	RES-CHIP	470K	5%	1/10W
R302	1-216-295-91	SHORT CHIP	0		

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R303	1-216-049-11	RES-CHIP	1K	5%	1/10W
R304	1-216-073-91	RES-CHIP	10K	5%	1/10W
R308	1-216-025-11	RES-CHIP	100	5%	1/10W
R309	1-216-025-11	RES-CHIP	100	5%	1/10W
R310	1-216-025-11	RES-CHIP	100	5%	1/10W
R311	1-216-041-00	RES-CHIP (KV-AR29M60/N90)	470	5%	1/10W
R312	1-216-039-00	RES-CHIP (KV-AR29M60/N90)	390	5%	1/10W
R313	1-216-037-00	RES-CHIP (KV-AR29M60/N90)	330	5%	1/10W
R314	1-216-083-00	RES-CHIP (KV-AR29M60/N90)	27K	5%	1/10W
R315	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R316	1-216-037-00	RES-CHIP (KV-AR29M60/N90)	330	5%	1/10W
R317	1-216-091-00	RES-CHIP (KV-AR29M60/N90)	56K	5%	1/10W
R318	1-216-039-00	RES-CHIP (KV-AR29M60/N90)	390	5%	1/10W
R319	1-216-025-11	RES-CHIP	100	5%	1/10W
R320	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R321	1-216-073-91	RES-CHIP	10K	5%	1/10W
R322	1-216-033-00	RES-CHIP	220	5%	1/10W
R323	1-216-053-00	RES-CHIP (KV-AR29M60/N90)	1.5K	5%	1/10W
R324	1-216-053-00	RES-CHIP (KV-AR29M60/N90)	1.5K	5%	1/10W
R326	1-216-029-00	RES-CHIP	150	5%	1/10W
R327	1-216-033-00	RES-CHIP	220	5%	1/10W
R328	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R329	1-216-041-00	RES-CHIP	470	5%	1/10W
R331	1-216-295-91	SHORT CHIP	0		
R332	1-216-033-00	RES-CHIP	220	5%	1/10W
R335	1-216-045-00	RES-CHIP	680	5%	1/10W
R338	1-216-037-00	RES-CHIP	330	5%	1/10W
R339	1-216-033-00	RES-CHIP	220	5%	1/10W
R340	1-216-025-11	RES-CHIP	100	5%	1/10W
R345	1-216-081-00	RES-CHIP	22K	5%	1/10W
R348	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R349	1-216-073-91	RES-CHIP	10K	5%	1/10W
R350	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R351	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R354	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R355	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R356	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R357	1-216-079-00	RES-CHIP	18K	5%	1/10W
R358	1-216-049-11	RES-CHIP	1K	5%	1/10W
R359	1-216-033-00	RES-CHIP	220	5%	1/10W
R360	1-216-033-00	RES-CHIP	220	5%	1/10W
R361	1-216-073-91	RES-CHIP	10K	5%	1/10W
R362	1-216-075-00	RES-CHIP	12K	5%	1/10W
R363	1-216-079-00	RES-CHIP	18K	5%	1/10W
R364	1-216-295-91	SHORT CHIP	0		
R365	1-216-033-00	RES-CHIP	220	5%	1/10W
R366	1-216-073-91	RES-CHIP (KV-AR29M60/N90)	10K	5%	1/10W
R367	1-216-073-91	RES-CHIP (KV-AR29M60/N90)	10K	5%	1/10W
R368	1-216-073-91	RES-CHIP	10K	5%	1/10W
R370	1-216-033-00	RES-CHIP	220	5%	1/10W
R371	1-216-083-00	RES-CHIP (KV-AR29M60/N90)	27K	5%	1/10W
R372	1-216-091-00	RES-CHIP (KV-AR29M60/N90)	56K	5%	1/10W
R375	1-216-025-11	RES-CHIP (KV-AR29M66)	100	5%	1/10W
R376	1-216-081-00	RES-CHIP	22K	5%	1/10W
R377	1-216-121-11	RES-CHIP	1M	5%	1/10W
R378	1-216-053-00	RES-CHIP (KV-AR29M60/N90)	1.5K	5%	1/10W
R379	1-218-179-11	RES-CHIP (KV-AR29M60/N90)	10M	5%	1/10W
R381	1-216-295-91	SHORT CHIP	0 (KV-AR29M60/N90)		
R382	1-216-065-91	RES-CHIP (KV-AR29M60)	4.7K	5%	1/10W
R383	1-216-049-11	RES-CHIP (KV-AR29M60/N90)	1K	5%	1/10W
R384	1-216-041-00	RES-CHIP (KV-AR29M60/N90)	470	5%	1/10W
R385	1-216-029-00	RES-CHIP (KV-AR29M60/N90)	150	5%	1/10W
R391	1-216-295-91	SHORT CHIP	0 (KV-AR29M60/N90)		
R500	1-249-417-11	CARBON	1K	5%	1/4W
R501	1-216-049-11	RES-CHIP	1K	5%	1/10W
R505	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R506	1-216-081-00	RES-CHIP	22K	5%	1/10W
R507	1-249-389-11	CARBON	4.7	5%	1/4W
R508	1-216-471-11	METAL OXIDE	27	5%	3W
R509	1-216-473-11	METAL OXIDE	56	5%	3W
R510	1-216-449-11	METAL OXIDE	56	5%	2W
R511	1-215-908-00	METAL OXIDE	33	5%	3W
R515	1-215-911-11	METAL OXIDE	100	5%	3W
R517	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R518	1-247-807-31	CARBON	100	5%	1/4W
R519	1-215-913-11	METAL OXIDE	220	5%	3W
R520	1-215-445-00	METAL	10K	1%	1/4W
R522	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R523	1-249-411-11	CARBON	330	5%	1/4W
R525	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
R526	1-208-804-11	METAL CHIP (KV-AR29M64(INDIA)/M66/M94/N90)	8.2K	0.5%	1/10W
R527	1-216-001-00	RES-CHIP	10	5%	1/10W
R528	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R529	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R531	1-247-843-11	CARBON	3.3K	5%	1/4W
R533	1-249-417-11	CARBON	1K	5%	1/4W
R534	1-216-364-11	METAL OXIDE	0.39	5%	2W
R535	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R536	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R537	1-208-804-11	METAL CHIP	8.2K	0.5%	1/10W
R539	1-216-049-11	RES-CHIP	1K	5%	1/10W
R540	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R541	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R542	1-216-073-91	RES-CHIP	10K	5%	1/10W
R543	1-216-437-00	METAL OXIDE	5.6K	5%	1W
R544	1-215-917-11	METAL OXIDE	1K	5%	3W
R545	1-216-077-91	RES-CHIP	15K	5%	1/10W
R546	1-216-077-91	RES-CHIP	15K	5%	1/10W
R547	1-216-085-91	RES-CHIP	33K	5%	1/10W
R548	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R549	1-215-452-00	METAL	20K	1%	1/4W
R550	1-216-097-11	RES-CHIP	100K	5%	1/10W

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.		PART NO.	DESCRIPTION		REMARK	
R551		1-249-441-11	CARBON	100K	5%	1/4W
R552		1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R553		1-215-453-00	METAL	22K	1%	1/4W
R554		1-215-453-00	METAL	22K	1%	1/4W
R556		1-215-437-00	METAL	4.7K	1%	1/4W
R558		1-247-843-11	CARBON	3.3K	5%	1/4W
R559		1-249-429-11	CARBON	10K	5%	1/4W
R560		1-216-073-91	RES-CHIP	10K	5%	1/10W
R561		1-216-049-11	RES-CHIP	1K	5%	1/10W
R562		1-249-401-11	CARBON	47	5%	1/4W
R564		1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R565		1-216-073-91	RES-CHIP	10K	5%	1/10W
R567		1-216-105-91	RES-CHIP	220K	5%	1/10W
R568		1-249-383-11	CARBON	1.5	5%	1/4W
R570		1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R571		1-215-443-00	METAL	8.2K	1%	1/4W
R573		1-216-083-00	RES-CHIP	27K	5%	1/10W
R575		1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R577		1-215-913-11	METAL OXIDE	220	5%	3W
R578		1-216-369-00	METAL OXIDE	1	5%	2W
R579		1-216-295-91	SHORT CHIP	0		
R580		1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R581		1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R582		1-218-760-11	METAL CHIP	220K	0.5%	1/10W
R584		1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R585		1-249-385-11	CARBON	2.2	5%	1/4W
R587		1-208-842-11	METAL CHIP	330K	0.5%	1/10W
R588		1-215-888-00	METAL OXIDE	220	5%	2W
R589		1-215-888-00	METAL OXIDE	220	5%	2W
R590		1-215-465-00	METAL	68K	1%	1/4W
R591		1-260-288-11	CARBON	0.47	5%	1/2W
R592		1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R593		1-260-288-11	CARBON	0.47	5%	1/2W
R594		1-260-288-11	CARBON	0.47	5%	1/2W
R595		1-216-073-91	RES-CHIP	10K	5%	1/10W
R596		1-215-916-00	METAL OXIDE	680	5%	3W
R597		1-247-750-11	CARBON	680	5%	1/2W
R598		1-249-438-11	CARBON	56K	5%	1/4W
R599		1-249-389-11	CARBON	4.7	5%	1/4W
R600		1-249-438-11	CARBON	56K	5%	1/4W
R601		1-249-420-11	CARBON	1.8K	5%	1/4W
R602		1-249-389-11	CARBON	4.7	5%	1/4W
R603		1-215-485-00	METAL	470K	1%	1/4W
R604		1-216-097-11	RES-CHIP	100K	5%	1/10W
R607		1-249-425-11	CARBON	4.7K	5%	1/4W
R608		1-240-205-91	METAL	22M	5%	1/2W
R609		1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R610		1-216-073-91	RES-CHIP	10K	5%	1/10W
R611		1-216-089-91	RES-CHIP	47K	5%	1/10W
R612		1-216-045-00	RES-CHIP	680	5%	1/10W
R614		1-216-041-00	RES-CHIP	470	5%	1/10W
R615		1-216-369-00	METAL OXIDE	1	5%	2W
R616		1-260-302-51	CARBON	6.8	5%	1/2W
R617		1-247-791-91	CARBON	22	5%	1/4W
R619		1-260-128-11	CARBON	270K	5%	1/2W
R620	⚠	1-129-720-61	FILM	0.033UF	5.00%	630V
			(EXCEPT KV-AR29N90)			
R620	⚠	1-129-720-61	FILM	0.027UF	5.00%	400V
			(KV-AR29N90)			
R621		1-215-864-00	METAL OXIDE	150	5%	1W
R623		1-216-095-00	RES-CHIP	82K	5%	1/10W
R624		1-216-089-91	RES-CHIP	47K	5%	1/10W

REF NO.		PART NO.	DESCRIPTION		REMARK	
R626		1-216-049-11	RES-CHIP	1K	5%	1/10W
R627		1-240-251-11	CEMENTED	6.8	5%	10W
R629		1-247-747-11	CARBON	470	5%	1/2W
R630		1-249-429-11	CARBON	10K	5%	1/4W
R631		1-216-089-91	RES-CHIP	47K	5%	1/10W
R632		1-220-886-11	FUSIBLE	0.1	10%	1W
R634	⚠	1-240-917-91	METAL	8.2M	5%	1W
R635		1-216-492-11	METAL OXIDE	82K	5%	3W
			(EXCEPT KV-AR29N90)			
R636		1-215-924-00	METAL OXIDE	15K	5%	3W
			(EXCEPT KV-AR29N90)			
R636		1-215-921-11	METAL OXIDE	4.7K	5%	3W
			(KV-AR29N90)			
R637		1-216-492-11	METAL OXIDE	82K	5%	3W
			(EXCEPT KV-AR29N90)			
R639		1-216-361-00	METAL OXIDE	0.22	5%	2W
R640		1-249-415-11	CARBON	680	5%	1/4W
R641		1-216-361-00	METAL OXIDE	0.22	5%	2W
R642		1-249-419-11	CARBON	1.5K	5%	1/4W
R643		1-247-843-11	CARBON	3.3K	5%	1/4W
R644		1-249-419-11	CARBON	1.5K	5%	1/4W
R646		1-215-924-00	METAL OXIDE	15K	5%	3W
			(EXCEPT KV-AR29N90)			
R646		1-215-921-11	METAL OXIDE	4.7K	5%	3W
			(KV-AR29N90)			
R647		1-249-387-11	CARBON	3.3	5%	1/4W
R648		1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R649		1-249-417-11	CARBON	1K	5%	1/4W
R650		1-215-882-00	METAL OXIDE	22	5%	2W
R652		1-215-900-11	METAL OXIDE	22K	5%	2W
R653		1-215-873-00	METAL OXIDE	4.7K	5%	1W
R656		1-249-417-11	CARBON	1K	5%	1/4W
R657		1-260-127-11	CARBON	220K	5%	1/2W
R659		1-216-049-11	RES-CHIP	1K	5%	1/10W
R660		1-216-073-91	RES-CHIP	10K	5%	1/10W
R661		1-215-873-00	METAL OXIDE	4.7K	5%	1W
R682		1-219-134-11	FUSIBLE	0.1	10%	1/4W
			(KV-AR29M60/N90)			
R682		1-533-597-41	LINK, IC (EXCEPT KV-AR29M60/N90)			
R909		1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R910		1-216-065-91	RES-CHIP	4.7K	5%	1/10W
			<RELAY>			
RY600	⚠	1-755-299-11	RELAY, AC POWER			
RY601	⚠	1-755-299-11	RELAY, AC POWER			
			<SWITCH>			
S501		1-572-707-11	SWITCH, LEVER			
S502		1-572-707-11	SWITCH, LEVER			
			<TRANSFORMER>			
T501		1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE			
T503	⚠	1-453-284-11	TRANSFORMER ASSY FLY BACK			
			(NX-4009//M314)			
			(KV-AR29M60/M64/M68/M94/N90)			
T503	⚠	1-453-297-21	TRANSFORMER ASSY FLY BACK			
			(NX-4009//M314)(KV-AR29M66)			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A **B1**

REF NO.		PART NO.	DESCRIPTION	REMARK
T504		1-431-693-11	TRANSFORMER, HORIZONTAL LINEAR	
T505		1-426-981-11	TRANSFORMER, FERRITE (PMT)	
T601	⚠	1-429-707-12	COIL, LINE FILTER (KV-AR29M60/M64(THAILAND)/M68)	
T601	⚠	1-429-707-12	TRANSFORMER, LINE FILTER (KV-AR29M64(INDIA)/M66/M94)	
T603	⚠	1-431-976-41	TRANSFORMER, CONVERTER (SRT)	
T604	⚠	1-431-852-11	TRANSFORMER, CONVERTER (SRT)	
			<THERMISTOR>	
TH600		1-803-586-11	THERMISTOR, NTC	
			<THERMISTOR>	
THP600	⚠	1-803-541-11	THERMISTOR	
			<TUNER>	
TU101		8-598-451-00	TUNER, FSS BTF-WG441 (KV-AR29M60/M68)	
TU101		8-598-452-20	TUNER, FSS BTF-WG442 (KV-AR29M64/M66/M94)	
TU101		8-598-593-20	TUNER, FSS BTF-WA421 (KV-AR29N90)	
			<VARISTOR>	
VDR600		1-803-830-11	VARISTOR (ERZV14D621) (EXCEPT KV-AR29N90)	
VDR600		1-801-451-51	VARISTOR TNR14V271K660 (KV-AR29N90)	
			<CRYSTAL>	
X001		1-781-174-21	VIBRATOR, CERAMIC	
X301		1-781-134-21	VINRATOR, CRYSTAL	
X302		1-781-132-21	VIBRATOR, CRYSTAL	

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*	A-1131-665-A	B1 BOARD MOUNTED (KV-AR29M60)			
*	A-1131-652-A	B1 BOARD MOUNTED (KV-AR29N90)			
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		<CAPACITOR>			
C1513		1-163-038-91	CERAMIC CHIP	0.1UF	25V
C1514		1-163-038-91	CERAMIC CHIP	0.1UF	25V
C1515		1-163-243-11	CERAMIC CHIP	47PF 5.00%	50V
C1517		1-164-005-11	CERAMIC CHIP	0.47UF	25V
C1518		1-126-967-11	ELECT	47UF 20.00%	50V
C1519		1-163-249-11	CERAMIC CHIP	82PF 5.00%	50V
C1520		1-163-249-11	CERAMIC CHIP	82PF 5.00%	50V
C1522		1-164-005-11	CERAMIC CHIP	0.47UF	25V
C1523		1-163-255-11	CERAMIC CHIP	150PF 5.00%	50V
C1524		1-163-247-91	CERAMIC CHIP	68PF 5.00%	50V
C1525		1-163-249-11	CERAMIC CHIP	82PF 5.00%	50V
C1526		1-163-249-11	CERAMIC CHIP	82PF 5.00%	50V
C1528		1-164-005-11	CERAMIC CHIP	0.47UF	25V
C1529		1-163-255-11	CERAMIC CHIP	150PF 5.00%	50V
C1530		1-163-247-91	CERAMIC CHIP	68PF 5.00%	50V
C1543		1-126-933-11	ELECT	100UF 20.00%	16V
C1544		1-165-319-11	CERAMIC CHIP	0.1UF	50V
C1554		1-165-319-11	CERAMIC CHIP	0.1UF	50V
C1555		1-163-038-91	CERAMIC CHIP	0.1UF	25V
C1556		1-163-038-91	CERAMIC CHIP	0.1UF	25V
			<CONNECTOR>		
CN1501	*	1-564-511-11	PLUG, CONNECTOR 8P		
CN1502	*	1-564-508-11	PLUG, CONNECTOR 5P		
CN1503		1-764-811-11	CONNECTOR, BOARD TO BOARD 10P		
			<DIODE>		
D1501		8-719-158-35	RD9.1S-B		
			<IC>		
IC1502		8-759-439-64	HEF4053BT		
			<COIL>		
L1501		1-414-856-11	INDUCTOR	10UH	
L1506		1-414-857-11	INDUCTOR	100UH	
L1507		1-414-187-11	INDUCTOR	47UH	
L1508		1-414-187-11	INDUCTOR	47UH	
L1509		1-414-857-11	INDUCTOR	100UH	
L1510		1-414-187-11	INDUCTOR	47UH	
L1511		1-414-187-11	INDUCTOR	47UH	
			<TRANSISTOR>		
Q1501		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1501		8-729-010-25	MSD601-RT1 (KV-AR29N90)		
Q1502		8-729-216-22	2SA1162-G		
Q1503		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1503		8-729-010-25	MSD601-RT1 (KV-AR29N90)		
Q1504		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1504		8-729-010-25	MSD601-RT1 (KV-AR29N90)		
Q1505		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1505		8-729-010-25	MSD601-RT1 (KV-AR29N90)		
Q1506		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1506		8-729-010-25	MSD601-RT1 (KV-AR29N90)		
Q1507		8-729-216-22	2SA1162-G		
Q1509		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1509		8-729-010-25	MSD601-RT1 (KV-AR29N90)		
Q1510		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1510		8-729-010-25	MSD601-RT1 (KV-AR29N90)		
Q1511		8-729-216-22	2SA1162-G		
Q1514		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1514		8-729-010-25	MSD601-RT1 (KV-AR29N90)		
Q1515		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1515		8-729-010-25	MSD601-RT1 (KV-AR29N90)		
Q1516		8-729-216-22	2SA1162-G		
Q1520		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1520		8-729-010-25	MSD601-RT1(KV-AR29N90)		
Q1522		8-729-230-49	2SC2712-YG (KV-AR29M60)		
Q1522		8-729-010-25	MSD601-RT1(KV-AR29N90)		
Q1523		8-729-216-22	2SA1162-G		

REF NO.	PART NO.	DESCRIPTION			REMARK
		<RESISTOR>			
R1501	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1502	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1503	1-216-025-11	RES-CHIP	100	5%	1/10W
R1504	1-216-025-11	RES-CHIP	100	5%	1/10W
R1506	1-216-025-11	RES-CHIP	100	5%	1/10W
R1507	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1508	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1511	1-216-033-00	RES-CHIP	220	5%	1/10W
R1512	1-216-005-00	RES-CHIP	15	5%	1/10W
R1515	1-216-041-00	RES-CHIP	470	5%	1/10W
R1516	1-216-025-11	RES-CHIP	100	5%	1/10W
R1517	1-216-075-00	RES-CHIP	12K	5%	1/10W
R1520	1-216-079-00	RES-CHIP	18K	5%	1/10W
R1522	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1523	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1528	1-216-033-00	RES-CHIP	220	5%	1/10W
R1529	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R1531	1-216-045-00	RES-CHIP	680	5%	1/10W
R1537	1-216-041-00	RES-CHIP	470	5%	1/10W
R1538	1-216-041-00	RES-CHIP	470	5%	1/10W
R1540	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1541	1-216-041-00	RES-CHIP	470	5%	1/10W
R1542	1-216-041-00	RES-CHIP	470	5%	1/10W
R1543	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1545	1-216-041-00	RES-CHIP	470	5%	1/10W
R1547	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1548	1-216-025-11	RES-CHIP	100	5%	1/10W
R1549	1-216-075-00	RES-CHIP	12K	5%	1/10W
R1551	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1552	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1553	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1554	1-216-033-00	RES-CHIP	220	5%	1/10W
R1556	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1559	1-216-041-00	RES-CHIP	470	5%	1/10W
R1560	1-216-041-00	RES-CHIP	470	5%	1/10W
R1561	1-216-041-00	RES-CHIP	470	5%	1/10W
R1562	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1563	1-216-041-00	RES-CHIP	470	5%	1/10W
R1566	1-216-041-00	RES-CHIP	470	5%	1/10W
R1567	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1568	1-216-041-00	RES-CHIP	470	5%	1/10W
R1569	1-216-049-11	RES-CHIP	1K	5%	1/10W

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*	A-1300-703-A	B8 BOARD COMPLETE (KV-AR29M64(THAILAND)
*	A-1300-813-A	B8 BOARD COMPLETE (KV-AR29M64(INDIA)/M94)
*	A-1300-764-A	B8 BOARD COMPLETE (KV-AR29M66)
*	A-1300-731-A	B8 BOARD COMPLETE (KV-AR29M68)
		**********
	4-382-854-11	SCREW (M3X10), P, SW (+)

REF NO.	PART NO.	DESCRIPTION			REMARK
		<CAPACITOR>			
C1305	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1307	1-164-346-11	CERAMIC CHIP	1UF		16V
C1310	1-126-786-11	ELECT	47UF	20.00%	16V
C1312	1-126-947-11	ELECT	47UF	20.00%	16V
C1330	1-126-964-11	ELECT	10UF	20.00%	50V
C1333	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1395	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C1401	1-104-661-91	ELECT	330UF	20.00%	16V
C1402	1-126-947-11	ELECT	47UF	20.00%	25V
C1403	1-126-947-11	ELECT	47UF	20.00%	25V
C1404	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1405	1-126-947-11	ELECT	47UF	20.00%	25V
C1406	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1407	1-126-934-11	ELECT	220UF	20.00%	16V
C1408	1-126-964-11	ELECT	10UF	20.00%	50V
C1410	1-126-947-11	ELECT	47UF	20.00%	25V
C1411	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1412	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1413	1-126-935-11	ELECT	470UF	20.00%	16V
C1414	1-164-346-11	CERAMIC CHIP	1UF		16V
C1415	1-126-947-11	ELECT	47UF	20.00%	25V
C1416	1-164-346-11	CERAMIC CHIP	1UF		16V
C1417	1-126-934-11	ELECT	220UF	20.00%	10V
C1418	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C1419	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1420	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1421	1-164-346-11	CERAMIC CHIP	1UF		16V
C1422	1-164-346-11	CERAMIC CHIP	1UF		16V
C1423	1-164-346-11	CERAMIC CHIP	1UF		16V
C1425	1-164-346-11	CERAMIC CHIP	1UF		16V
C1426	1-164-346-11	CERAMIC CHIP	1UF		16V
C1428	1-104-665-11	ELECT	100UF	20.00%	25V
C1429	1-126-789-11	ELECT	33UF	20.00%	25V
C1430	1-164-004-11	CERAMIC CHIP (EXCEPT KV-AR29M68)	0.1UF	10.00%	25V
C1431	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1432	1-126-933-11	ELECT	100UF	20.00%	16V
C1433	1-126-947-11	ELECT	47UF	20.00%	16V
C1434	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1435	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1436	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1438	1-163-005-91	CERAMIC CHIP (EXCEPT KV-AR29M68)	470PF	10.00%	50V
C1439	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1440	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1441	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1442	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1443	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1444	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1445	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1446	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1447	1-126-795-11	ELECT	10UF	20.00%	50V
C1448	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1449	1-126-933-11	ELECT	100UF	20.00%	16V
C1450	1-163-005-91	CERAMIC CHIP (EXCEPT KV-AR29M68)	470PF	10.00%	50V
C1451	1-163-005-91	CERAMIC CHIP (EXCEPT KV-AR29M68)	470PF	10.00%	50V
C1452	1-163-005-91	CERAMIC CHIP (EXCEPT KV-AR29M68)	470PF	10.00%	50V
C1453	1-126-933-11	ELECT (EXCEPT KV-AR29M68)	100UF	20.00%	16V
C1454	1-126-967-11	ELECT (EXCEPT KV-AR29M68)	47UF	20.00%	50V
C1455	1-126-967-11	ELECT (EXCEPT KV-AR29M68)	47UF	20.00%	50V

B8

REF NO.	PART NO.	DESCRIPTION			REMARK
C1456	1-126-933-11	ELECT (EXCEPT KV-AR29M68)	100UF	20.00%	16V
C1457	1-164-346-11	CERAMIC CHIP	1UF		16V
C1458	1-126-933-11	ELECT (EXCEPT KV-AR29M68)	100UF	20.00%	16V
C1459	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1460	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1461	1-164-346-11	CERAMIC CHIP	1UF		16V
C1462	1-164-346-11	CERAMIC CHIP	1UF		16V
C1464	1-126-933-11	ELECT	100UF	20.00%	16V
C3201	1-126-964-11	ELECT	10UF	20.00%	50V
C3202	1-136-171-00	FILM	0.33UF	5.00%	50V
C3203	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3220	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3221	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3222	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3223	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3224	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3225	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C3226	1-126-964-11	ELECT	10UF	20.00%	50V
C3227	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3228	1-107-698-11	ELECT	10UF	20.00%	25V
C3229	1-107-698-11	ELECT	10UF	20.00%	25V
C3238	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C3239	1-136-171-00	FILM	0.33UF	5.00%	50V
C3243	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C3244	1-164-346-11	CERAMIC CHIP	1UF		16V
C3245	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C3246	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C3247	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3248	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3249	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3250	1-164-346-11	CERAMIC CHIP	1UF		16V
C3251	1-126-964-11	ELECT	10UF	20.00%	50V
C3252	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3253	1-126-933-11	ELECT	100UF	20.00%	16V
C3254	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3255	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C3256	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3257	1-164-346-11	CERAMIC CHIP	1UF		16V
C3258	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C3259	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3260	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3262	1-126-947-11	ELECT	47UF	20.00%	16V
C3264	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3301	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3302	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3303	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3304	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3305	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3306	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3307	1-126-935-11	ELECT	470UF	20.00%	16V
C3308	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3309	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C3310	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C3311	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3312	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3313	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3314	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3315	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C3316	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C3317	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C3318	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3319	1-110-501-11	CERAMIC CHIP	0.33UF	10.00%	16V
C3320	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3321	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3322	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3323	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3324	1-126-935-11	ELECT	470UF	20.00%	16V
C3325	1-104-665-11	ELECT	100UF	20.00%	25V
C3326	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3327	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3328	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3329	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3330	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3331	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3332	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C3333	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C3334	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C3335	1-163-019-00	CERAMIC CHIP	0.0068UF	10.00%	50V
C3336	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3337	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3338	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3401	1-117-720-11	CERAMIC CHIP (EXCEPT KV-AR29M68)	4.7UF		10V
C3402	1-117-720-11	CERAMIC CHIP (EXCEPT KV-AR29M68)	4.7UF		10V
C3403	1-117-720-11	CERAMIC CHIP (EXCEPT KV-AR29M68)	4.7UF		10V
C3404	1-117-720-11	CERAMIC CHIP (EXCEPT KV-AR29M68)	4.7UF		10V
C3405	1-126-964-11	ELECT (EXCEPT KV-AR29M68)	10UF	20.00%	50V
C6200	1-216-295-91	SHORT CHIP	0		
C6202	1-128-550-11	ELECT	2200UF	20.00%	50V
C6203	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C6204	1-128-550-11	ELECT	2200UF	20.00%	50V
C6205	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C6206	1-128-550-11	ELECT	2200UF	20.00%	50V
C6209	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C6210	1-126-924-11	ELECT	330UF	20.00%	10V
C6211	1-126-924-11	ELECT	330UF	20.00%	10V
C6212	1-126-947-11	ELECT	47UF	20.00%	25V
C6213	1-126-964-11	ELECT	10UF	20.00%	50V
C6217	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C6220	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C6222	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C6223	1-126-960-11	ELECT (EXCEPT KV-AR29M64(INDIA)/M94)	1UF	20.00%	50V
C6223	1-125-799-91	ELECT (KV-AR29M64(INDIA)/M94)	1UF	20.00%	63V
C6241	1-126-964-11	ELECT (EXCEPT KV-AR29M64(INDIA)/M94)	10UF	20.00%	50V
C6249	1-216-295-91	SHORT CHIP	0		

<CONNECTOR>

CN1300	*	1-564-506-11	PLUG, CONNECTOR 3P
CN1400	*	1-564-512-11	PLUG, CONNECTOR 9P
CN1401	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P
CN1404	*	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P
CN1405	*	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P
CN1406	*	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P
CN1407	*	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P
CN1408		1-764-818-11	CONNECTOR, BOARD TO BOARD 10P

REF NO.	PART NO.	DESCRIPTION	REMARK
CN1409	1-764-818-11	CONNECTOR, BOARD TO BOARD 10P	
CN1415	1-695-915-11	TAB (CONTACT)	
CN6200 *	1-564-507-11	PLUG, CONNECTOR 4P	
CN6204 *	1-564-509-11	PLUG, CONNECTOR 6P	
CN6206 *	1-564-508-11	PLUG, CONNECTOR 5P	
		<DIODE>	
D1401	8-719-069-60	UDZSTE-179.1B	
D1402	8-719-069-60	UDZSTE-179.1B	
D1403	8-719-069-60	UDZSTE-179.1B	
D1404	8-719-069-60	UDZSTE-179.1B	
D1405	8-719-069-60	UDZSTE-179.1B	
D1406	8-719-069-60	UDZSTE-179.1B	
D1407	8-719-069-60	UDZSTE-179.1B	
D1408	8-719-069-60	UDZSTE-179.1B	
D1409	8-719-069-60	UDZSTE-179.1B	
D1410	8-719-069-60	UDZSTE-179.1B	
D1411	8-719-069-60	UDZSTE-179.1B	
D1412	8-719-069-60	UDZSTE-179.1B	
D1415	8-719-069-60	UDZSTE-179.1B	
D1416	8-719-069-60	UDZSTE-179.1B	
D1418	8-719-069-60	UDZSTE-179.1B	
D3201	8-719-988-61	1SS355TE-17	
D3203	8-719-988-61	1SS355TE-17	
D6210	8-719-914-42	DA204K	
		<IC>	
IC1401	8-752-068-46	CXA1855S	
IC1402	8-759-100-96	UPC4558G2	
IC1403	8-759-231-53	TA7805S	
IC1404	8-759-701-59	NJM78M09FA	
IC3200	8-759-100-96	UPC4558G2	
IC3202	8-759-100-96	UPC4558G2	
IC3204	8-759-100-96	UPC4558G2	
IC3205	8-752-058-68	CXA1315M	
IC3301	8-759-711-10	NJU4066BM	
IC3302	6-702-145-01	IC NJW1139GK1-TE2	
IC3401	8-759-443-11	NJM2283M-TE1 (EXCEPT KV-AR29M68)	
IC6200	8-759-168-24	TA8200AH	
		<JACK>	
J1401	1-784-646-11	TERMINAL, S	
J1402	1-778-387-11	JACK BLOCK, PIN 12P	
		<CHIP CONDUCTOR>	
JR1303	1-216-295-91	SHORT CHIP 0	
JR1400	1-216-295-91	SHORT CHIP 0	
JR1401	1-216-295-91	SHORT CHIP 0 (EXCEPT KV-AR29M68)	
JR1405	1-216-295-91	SHORT CHIP 0	
JR1406	1-216-295-91	SHORT CHIP 0	
JR1407	1-216-295-91	SHORT CHIP 0	
JR1409	1-216-295-91	SHORT CHIP 0	
JR1410	1-216-295-91	SHORT CHIP 0	
JR1411	1-216-295-91	SHORT CHIP 0	
JR1412	1-216-025-11	RES-CHIP 100 5% 1/10W (KV-AR29M66/M64(INDIA)/M94)	
JR1415	1-216-295-91	SHORT CHIP 0	
JR1417	1-216-295-91	SHORT CHIP 0	

REF NO.	PART NO.	DESCRIPTION	REMARK
JR1418	1-216-295-91	SHORT CHIP 0	
JR1419	1-216-295-91	SHORT CHIP 0	
JR1420	1-216-295-91	SHORT CHIP 0	
JR1421	1-216-295-91	SHORT CHIP 0	
JR1422	1-216-295-91	SHORT CHIP 0	
JR1423	1-216-295-91	SHORT CHIP 0	
JR1481	1-216-295-91	SHORT CHIP 0	
JR3201	1-216-295-91	SHORT CHIP 0	
JR3204	1-216-295-91	SHORT CHIP 0	
JR3206	1-216-295-91	SHORT CHIP 0	
JR3209	1-216-295-91	SHORT CHIP 0	
JR3210	1-216-295-91	SHORT CHIP 0	
JR3211	1-216-295-91	SHORT CHIP 0	
JR3302	1-216-295-91	SHORT CHIP 0	
JR3303	1-216-295-91	SHORT CHIP 0	
JR3306	1-216-295-91	SHORT CHIP 0	
JR3307	1-216-295-91	SHORT CHIP 0	
JR3401	1-216-295-91	SHORT CHIP 0 (KV-AR29N90)	
JR3402	1-216-295-91	SHORT CHIP 0 (KV-AR29N90)	
JR3403	1-216-295-91	SHORT CHIP 0 (EXCEPT KV-AR29M68)	
JR6200	1-216-295-91	SHORT CHIP 0	
JR6202	1-216-295-91	SHORT CHIP 0	
JR6203	1-216-295-91	SHORT CHIP 0	
JR6204	1-216-295-91	SHORT CHIP 0	
JR6206	1-216-295-91	SHORT CHIP 0	
JR6210	1-216-295-91	SHORT CHIP 0	
JR6223	1-216-295-91	SHORT CHIP 0	
		<COIL>	
L1313	1-414-187-11	INDUCTOR 47UH	
L1314	1-414-856-11	INDUCTOR 10UH	
L1315	1-414-856-11	INDUCTOR 10UH	
L1317	1-414-856-11	INDUCTOR 10UH	
L1400	1-414-856-11	INDUCTOR 10UH (EXCEPT KV-AR29M68)	
L1402	1-406-665-11	INDUCTOR 100UH	
L1403	1-414-856-11	INDUCTOR 10UH (EXCEPT KV-AR29M68)	
L1404	1-406-665-11	INDUCTOR 100UH	
L1405	1-414-856-11	INDUCTOR 10UH (EXCEPT KV-AR29M68)	
L1406	1-414-856-11	INDUCTOR 10UH (EXCEPT KV-AR29M68)	
L1407	1-414-856-11	INDUCTOR 10UH (EXCEPT KV-AR29M68)	
L3202	1-414-856-11	INDUCTOR 10UH	
		<TRANSISTOR>	
Q1316	8-729-216-22	2SA1162-G	
Q1317	8-729-230-49	2SC2712-YG	
Q1318	8-729-230-49	2SC2712-YG	
Q1323	8-729-230-49	2SC2712-YG	
Q1324	8-729-230-49	2SC2712-YG	
Q1365	8-729-230-49	2SC2712-YG	
Q1372	8-729-230-49	2SC2712-YG	
Q1401	8-729-230-49	2SC2712-YG (EXCEPT KV-AR29M68)	
Q1402	8-729-216-22	2SA1162-G	
Q1403	8-729-230-49	2SC2712-YG	
Q1404	8-729-230-49	2SC2712-YG	
Q1405	8-729-230-49	2SC2712-YG (KV-AR29M66/M64(INDIA)/M94)	

B8

REF NO.	PART NO.	DESCRIPTION			REMARK
Q1408	8-729-230-49	2SC2712-YG			
Q1409	8-729-230-49	2SC2712-YG			
Q1410	8-729-230-49	2SC2712-YG (EXCEPT KV-AR29M68)			
Q3201	8-729-224-62	2SK246-GR			
Q3202	8-729-230-49	2SC2712-YG			
Q3203	8-729-230-49	2SC2712-YG			
Q3204	8-729-224-62	2SK246-GR			
Q6201	8-729-421-19	UN2213			
Q6203	8-729-421-19	UN2213			
Q6204	8-729-421-19	UN2213			
Q6208	8-729-421-19	UN2213			
		<RESISTOR>			
R1301	1-216-041-00	RES-CHIP	470	5%	1/10W
R1318	1-216-033-00	RES-CHIP	220	5%	1/10W
R1320	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1343	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1344	1-216-025-11	RES-CHIP	100	5%	1/10W
R1345	1-216-041-00	RES-CHIP	470	5%	1/10W
R1346	1-216-041-00	RES-CHIP	470	5%	1/10W
R1347	1-216-025-11	RES-CHIP	100	5%	1/10W
R1350	1-216-085-91	RES-CHIP	33K	5%	1/10W
R1359	1-216-025-11	RES-CHIP	100	5%	1/10W
R1360	1-216-041-00	RES-CHIP	470	5%	1/10W
R1361	1-216-041-00	RES-CHIP	470	5%	1/10W
R1362	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R1363	1-216-033-00	RES-CHIP	220	5%	1/10W
R1364	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1365	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1366	1-216-295-91	SHORT CHIP	0		
R1368	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1369	1-216-025-11	RES-CHIP	100	5%	1/10W
R1370	1-216-041-00	RES-CHIP	470	5%	1/10W
R1371	1-216-039-00	RES-CHIP	390	5%	1/10W
R1372	1-216-041-00	RES-CHIP	470	5%	1/10W
R1397	1-216-045-00	RES-CHIP	680	5%	1/10W
R1400	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1401	1-216-031-00	RES-CHIP (EXCEPT KV-AR29M68)	180	5%	1/10W
R1402	1-216-033-00	RES-CHIP (EXCEPT KV-AR29M68)	220	5%	1/10W
R1403	1-216-033-00	RES-CHIP	220	5%	1/10W
R1404	1-216-295-91	SHORT CHIP	0		
R1406	1-216-013-00	RES-CHIP	33	5%	1/10W
R1407	1-216-033-00	RES-CHIP	220	5%	1/10W
R1408	1-216-031-00	RES-CHIP	180	5%	1/10W
R1409	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1410	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1411	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1412	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1413	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1414	1-216-025-11	RES-CHIP	100	5%	1/10W
R1417	1-216-025-11	RES-CHIP	100	5%	1/10W
R1418	1-216-025-11	RES-CHIP	100	5%	1/10W
R1419	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R1420	1-216-073-91	RES-CHIP (EXCEPT KV-AR29M68)	10K	5%	1/10W
R1421	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1423	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R1424	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1425	1-216-047-91	RES-CHIP	820	5%	1/10W
R1426	1-216-025-11	RES-CHIP	100	5%	1/10W
R1427	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R1428	1-216-025-11	RES-CHIP	100	5%	1/10W
R1429	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1430	1-216-025-11	RES-CHIP	100	5%	1/10W
R1431	1-216-025-11	RES-CHIP	100	5%	1/10W
R1432	1-216-041-00	RES-CHIP	470	5%	1/10W
R1433	1-216-025-11	RES-CHIP	100	5%	1/10W
R1434	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R1435	1-216-022-00	RES-CHIP	75	5%	1/10W
R1436	1-216-025-11	RES-CHIP	100	5%	1/10W
R1437	1-216-022-00	RES-CHIP	75	5%	1/10W
R1438	1-216-025-11	RES-CHIP	100	5%	1/10W
R1439	1-216-017-91	RES-CHIP	47	5%	1/10W
R1441	1-216-025-11	RES-CHIP	100	5%	1/10W
R1442	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1443	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1444	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1445	1-216-025-11	RES-CHIP	100	5%	1/10W
R1446	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1447	1-216-025-11	RES-CHIP	100	5%	1/10W
R1448	1-216-043-91	RES-CHIP	560	5%	1/10W
R1449	1-249-429-11	CARBON	10K	5%	1/4W
R1450	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1451	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1452	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1453	1-216-025-11	RES-CHIP	100	5%	1/10W
R1454	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1455	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1456	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1457	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1458	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1459	1-216-025-11	RES-CHIP	100	5%	1/10W
R1460	1-216-033-00	RES-CHIP	220	5%	1/10W
R1461	1-216-025-11	RES-CHIP	100	5%	1/10W
R1462	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R1463	1-249-429-11	CARBON	10K	5%	1/4W
R1464	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1465	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1466	1-216-033-00	RES-CHIP	220	5%	1/10W
R1467	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1468	1-216-093-91	RES-CHIP	68K	5%	1/10W
R1469	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1470	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1471	1-216-022-00	RES-CHIP	75	5%	1/10W
R1472	1-216-033-00	RES-CHIP	220	5%	1/10W
R1473	1-216-033-00	RES-CHIP	220	5%	1/10W
R1474	1-216-295-91	SHORT CHIP	0 (EXCEPT KV-AR29M68)		
R1475	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1476	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1477	1-216-047-91	RES-CHIP	820	5%	1/10W
R1478	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R1479	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1480	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1481	1-216-022-00	RES-CHIP	75	5%	1/10W
R1483	1-216-025-11	RES-CHIP	100	5%	1/10W
R1484	1-216-025-11	RES-CHIP	100	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R1485	1-216-025-11	RES-CHIP	100	5%	1/10W
R1486	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1487	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1488	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1489	1-216-022-00	RES-CHIP	75	5%	1/10W
R1490	1-216-025-11	RES-CHIP	100	5%	1/10W
R1491	1-216-025-11	RES-CHIP	100	5%	1/10W
R1492	1-216-021-00	RES-CHIP	68	5%	1/10W
R1493	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1494	1-216-031-00	RES-CHIP (EXCEPT KV-AR29M68)	180	5%	1/10W
R1495	1-216-033-00	RES-CHIP (EXCEPT KV-AR29M68)	220	5%	1/10W
R1496	1-216-041-00	RES-CHIP	470	5%	1/10W
R1497	1-216-041-00	RES-CHIP	470	5%	1/10W
R1498	1-216-025-11	RES-CHIP	100	5%	1/10W
R1499	1-216-025-11	RES-CHIP	100	5%	1/10W
R1500	1-216-025-11	RES-CHIP	100	5%	1/10W
R1501	1-216-045-00	RES-CHIP	680	5%	1/10W
R1503	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1504	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1505	1-216-022-00	RES-CHIP	75	5%	1/10W
R1506	1-216-033-00	RES-CHIP	220	5%	1/10W
R1507	1-216-025-11	RES-CHIP	100	5%	1/10W
R1508	1-216-025-11	RES-CHIP (KV-AR29M66/M64(INDIA)/M94)	100	5%	1/10W
R1509	1-216-041-00	RES-CHIP (KV-AR29M66/M64(INDIA)/M94)	470	5%	1/10W
R3200	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3201	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3202	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3203	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3204	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R3205	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R3206	1-216-039-00	RES-CHIP	390	5%	1/10W
R3207	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3219	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3220	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3221	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3222	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3223	1-216-045-00	RES-CHIP	680	5%	1/10W
R3224	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3229	1-216-025-11	RES-CHIP	100	5%	1/10W
R3230	1-216-025-11	RES-CHIP	100	5%	1/10W
R3231	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3232	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3233	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R3234	1-216-039-00	RES-CHIP	390	5%	1/10W
R3235	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3236	1-216-113-00	RES-CHIP	470K	5%	1/10W
R3237	1-216-045-00	RES-CHIP	680	5%	1/10W
R3238	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3239	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3240	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3241	1-216-093-91	RES-CHIP	68K	5%	1/10W
R3242	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3245	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3246	1-216-045-00	RES-CHIP	680	5%	1/10W
R3251	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3252	1-216-113-00	RES-CHIP	470K	5%	1/10W
R3253	1-216-045-00	RES-CHIP	680	5%	1/10W
R3254	1-216-073-91	RES-CHIP	10K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R3255	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3256	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3257	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3258	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3259	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R3262	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3263	1-216-093-91	RES-CHIP	68K	5%	1/10W
R3267	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3268	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3269	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3271	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R3273	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3274	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R3301	1-216-079-00	RES-CHIP	18K	5%	1/10W
R3302	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3303	1-216-079-00	RES-CHIP	18K	5%	1/10W
R3304	1-216-077-91	RES-CHIP	15K	5%	1/10W
R3305	1-216-077-91	RES-CHIP	15K	5%	1/10W
R3306	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3307	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3308	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3309	1-216-025-11	RES-CHIP	100	5%	1/10W
R3310	1-216-025-11	RES-CHIP	100	5%	1/10W
R3311	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3312	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3313	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3314	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3315	1-216-295-91	SHORT CHIP	0		
R3318	1-216-295-91	SHORT CHIP	0		
R3401	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R3402	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R3403	1-216-049-11	RES-CHIP (EXCEPT KV-AR29M68)	1K	5%	1/10W
R3406	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R3407	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R6201	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6202	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6203	1-216-295-91	SHORT CHIP	0		
R6209	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6219	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6245	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6246	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6254	1-216-021-00	RES-CHIP	68	5%	1/10W
R6255	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R6258	1-216-021-00	RES-CHIP	68	5%	1/10W
R6259	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R6278	1-216-295-91	SHORT CHIP	0		
		<TUNER>			
TU1401	8-598-450-10	TUNER, FSS BTF-LG434 (EXCEPT KV-AR29M68)			

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B10

REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1300-766-A	B10 BOARD COMPLETE (KV-AR29M60)			
	* A-1300-895-A	B10 BOARD COMPLETE (KV-AR29N90)			
		**********			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C1305	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1307	1-164-346-11	CERAMIC CHIP	1UF		16V
C1310	1-126-947-11	ELECT	47UF	20.00%	16V
C1312	1-126-947-11	ELECT	47UF	20.00%	16V
C1330	1-126-964-11	ELECT	10UF	20.00%	50V
C1333	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1395	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C1396	1-125-889-91	CERAMIC CHIP	2.2UF	10%	10V
C1401	1-104-661-91	ELECT	330UF	20.00%	16V
C1402	1-126-947-11	ELECT	47UF	20.00%	25V
C1403	1-126-947-11	ELECT	47UF	20.00%	25V
C1404	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1405	1-126-947-11	ELECT	47UF	20.00%	25V
C1406	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1408	1-126-964-11	ELECT	10UF	20.00%	50V
C1410	1-126-947-11	ELECT	47UF	20.00%	25V
C1411	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1413	1-126-935-11	ELECT	470UF	20.00%	16V
C1414	1-164-346-11	CERAMIC CHIP	1UF		16V
C1415	1-126-947-11	ELECT	47UF	20.00%	25V
C1416	1-164-346-11	CERAMIC CHIP	1UF		16V
C1418	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C1419	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1421	1-164-346-11	CERAMIC CHIP	1UF		16V
C1422	1-164-346-11	CERAMIC CHIP	1UF		16V
C1423	1-164-346-11	CERAMIC CHIP	1UF		16V
C1425	1-164-346-11	CERAMIC CHIP	1UF		16V
C1426	1-164-346-11	CERAMIC CHIP	1UF		16V
C1428	1-104-665-11	ELECT	100UF	20.00%	25V
C1429	1-104-663-11	ELECT	33UF	20.00%	25V
C1431	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1432	1-126-933-11	ELECT	100UF	20.00%	16V
C1433	1-126-947-11	ELECT	47UF	20.00%	16V
C1434	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1435	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1436	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1439	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1440	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1441	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1442	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1443	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1444	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1445	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1446	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1447	1-126-964-11	ELECT	10UF	20.00%	50V
C1448	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1449	1-126-933-11	ELECT	100UF	20.00%	16V
C1457	1-164-346-11	CERAMIC CHIP	1UF		16V
C1459	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1460	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1461	1-164-346-11	CERAMIC CHIP	1UF		16V
C1462	1-164-346-11	CERAMIC CHIP	1UF		16V
C1464	1-126-933-11	ELECT	100UF	20.00%	16V
C3201	1-126-964-11	ELECT	10UF	20.00%	50V
C3202	1-136-171-00	FILM	0.33UF	5.00%	50V

REF NO.	PART NO.	DESCRIPTION			REMARK
C3203	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3220	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3221	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3222	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3223	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3224	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3225	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C3226	1-126-964-11	ELECT	10UF	20.00%	50V
C3227	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3228	1-107-698-11	ELECT	10UF	20.00%	25V
C3229	1-107-698-11	ELECT	10UF	20.00%	25V
C3238	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C3239	1-136-171-00	FILM	0.33UF	5.00%	50V
C3243	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C3244	1-164-346-11	CERAMIC CHIP	1UF		16V
C3245	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C3246	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C3247	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3248	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3249	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3250	1-164-346-11	CERAMIC CHIP	1UF		16V
C3251	1-126-964-11	ELECT	10UF	20.00%	50V
C3252	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3253	1-126-933-11	ELECT	100UF	20.00%	16V
C3254	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3255	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C3256	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3257	1-164-346-11	CERAMIC CHIP	1UF		16V
C3258	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C3259	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3260	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3262	1-126-947-11	ELECT	47UF	20.00%	16V
C3264	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3301	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3302	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3303	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3304	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3305	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3306	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C3307	1-104-665-11	ELECT	100UF	20.00%	25V
C3308	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3309	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C3310	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C3311	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3312	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3313	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3314	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3315	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C3316	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C3317	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C3318	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3319	1-110-501-11	CERAMIC CHIP	0.33UF	10.00%	16V
C3320	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3321	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3322	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3323	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3324	1-126-964-11	ELECT	10UF	20.00%	50V
C3325	1-104-665-11	ELECT	100UF	20.00%	25V
C3326	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3327	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3328	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3329	1-126-963-11	ELECT	4.7UF	20.00%	50V

REF NO.	PART NO.	DESCRIPTION			REMARK
C3330	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3331	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C3332	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C3333	1-115-185-11	CERAMIC CHIP	0.033UF	10.00%	50V
C3334	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C3335	1-163-019-00	CERAMIC CHIP	0.0068UF	10.00%	50V
C3336	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3337	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C3338	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C6200	1-216-295-91	SHORT CHIP	0		
C6202	1-128-550-11	ELECT	2200UF	20.00%	50V
C6203	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C6204	1-128-550-11	ELECT	2200UF	20.00%	50V
C6205	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C6206	1-128-550-11	ELECT	2200UF	20.00%	50V
C6209	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C6210	1-126-924-11	ELECT	330UF	20.00%	10V
C6211	1-126-924-11	ELECT	330UF	20.00%	10V
C6212	1-126-947-11	ELECT	47UF	20.00%	25V
C6213	1-126-964-11	ELECT	10UF	20.00%	50V
C6217	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C6220	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C6222	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C6223	1-126-960-11	ELECT	1UF	20.00%	50V
C6241	1-126-964-11	ELECT	10UF	20.00%	50V
C6244	1-163-017-00	CERAMIC CHIP (KV-AR29M60)	0.0047UF	10.00%	50V
C6244	1-163-018-00	CERAMIC CHIP (KV-AR29N90)	0.0056UF	10.00%	50V
C6245	1-163-017-00	CERAMIC CHIP (KV-AR29M60)	0.0047UF	10.00%	50V
C6245	1-163-018-00	CERAMIC CHIP (KV-AR29N90)	0.0056UF	10.00%	50V
C6249	1-216-295-91	SHORT CHIP	0		
		<CONNECTOR>			
CN1300 *	1-564-506-11	PLUG, CONNECTOR 3P			
CN1400 *	1-564-512-11	PLUG, CONNECTOR 9P			
CN1401 *	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN1402 *	1-564-506-11	PLUG, CONNECTOR 3P (KV-AR29N90)			
CN1403 *	1-564-506-11	PLUG, CONNECTOR 3P			
CN1405 *	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P			
CN1406 *	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P			
CN1407 *	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P			
CN1409	1-764-818-11	CONNECTOR, BOARD TO BOARD 10P			
CN6200 *	1-564-507-11	PLUG, CONNECTOR 4P			
CN6204 *	1-564-509-11	PLUG, CONNECTOR 6P			
CN6206 *	1-564-508-11	PLUG, CONNECTOR 5P			
		<DIODE>			
D1401	8-719-069-60	UDZSTE-179.1B			
D1402	8-719-069-60	UDZSTE-179.1B			
D1403	8-719-069-60	UDZSTE-179.1B			
D1404	8-719-069-60	UDZSTE-179.1B			
D1405	8-719-069-60	UDZSTE-179.1B			
D1406	8-719-069-60	UDZSTE-179.1B			
D1407	8-719-069-60	UDZSTE-179.1B			
D1408	8-719-069-60	UDZSTE-179.1B			
D1409	8-719-069-60	UDZSTE-179.1B			
D1410	8-719-069-60	UDZSTE-179.1B			
D1411	8-719-069-60	UDZSTE-179.1B			
D1412	8-719-069-60	UDZSTE-179.1B			
D1415	8-719-069-60	UDZSTE-179.1B			
D1416	8-719-069-60	UDZSTE-179.1B			
D1418	8-719-069-60	UDZSTE-179.1B			
D3201	8-719-988-61	1SS355TE-17			
D3203	8-719-988-61	1SS355TE-17			
D3301	8-719-081-97	MMDL914T1 (KV-AR29M60)			
D3301	8-719-404-50	MA111-TX (KV-AR29N90)			
D3302	8-719-081-97	MMDL914T1 (KV-AR29M60)			
D3302	8-719-404-50	MA111-TX (KV-AR29N90)			
D6211	8-719-081-97	MMDL914T1 (KV-AR29M60)			
D6211	8-719-404-50	MA111-TX (KV-AR29N90)			
D6212	8-719-081-97	MMDL914T1 (KV-AR29M60)			
D6212	8-719-404-50	MA111-TX (KV-AR29N90)			
		<IC>			
IC1401	8-752-068-46	CXA1855S			
IC1402	8-759-100-96	UPC4558G2			
IC1404	8-759-701-59	NJM78M09FA			
IC3200	8-759-100-96	UPC4558G2			
IC3202	8-759-100-96	UPC4558G2			
IC3204	8-759-100-96	UPC4558G2			
IC3205	8-752-058-68	CXA1315M			
IC3301	8-759-711-10	NJU4066BM			
IC3302	6-702-145-01	IC NJW1139GK1-TE2			
IC6200	8-759-168-24	TA8200AH			
		<JACK>			
J1401	1-784-646-11	TERMINAL, S			
J1402	1-778-387-11	JACK BLOCK, PIN 12P			
		<CHIP CONDUCTOR>			
JR1301	1-216-295-91	SHORT CHIP	0		
JR1405	1-216-295-91	SHORT CHIP	0		
JR1406	1-216-295-91	SHORT CHIP	0		
JR1407	1-216-295-91	SHORT CHIP	0		
JR1409	1-216-295-91	SHORT CHIP	0		
JR1410	1-216-295-91	SHORT CHIP	0		
JR1411	1-216-295-91	SHORT CHIP	0		
JR3204	1-216-295-91	SHORT CHIP	0		
JR3209	1-216-295-91	SHORT CHIP	0		
JR6200	1-216-295-91	SHORT CHIP	0		
JR6202	1-216-295-91	SHORT CHIP	0		
JR6203	1-216-295-91	SHORT CHIP	0		
JR6204	1-216-295-91	SHORT CHIP	0		
JR6206	1-216-295-91	SHORT CHIP	0		
		<COIL>			
L1313	1-414-187-11	INDUCTOR	47UH		
L1314	1-414-856-11	INDUCTOR	10UH		
L1315	1-414-856-11	INDUCTOR	10UH		
L1317	1-414-856-11	INDUCTOR	10UH		
L1404	1-412-537-31	INDUCTOR	100UH		
L3202	1-414-856-11	INDUCTOR	10UH		

B10

REF NO.	PART NO.	DESCRIPTION		REMARK	
		<TRANSISTOR>			
Q1316	8-729-216-22	2SA1162-G			
Q1317	8-729-230-49	2SC2712-YG			
Q1318	8-729-230-49	2SC2712-YG			
Q1323	8-729-230-49	2SC2712-YG			
Q1324	8-729-230-49	2SC2712-YG			
Q1365	8-729-230-49	2SC2712-YG			
Q1372	8-729-230-49	2SC2712-YG			
Q1402	8-729-216-22	2SA1162-G			
Q1403	8-729-230-49	2SC2712-YG			
Q1404	8-729-230-49	2SC2712-YG			
Q1408	8-729-230-49	2SC2712-YG			
Q1409	8-729-230-49	2SC2712-YG			
Q3201	8-729-224-62	2SK246-GR			
Q3202	8-729-230-49	2SC2712-YG			
Q3203	8-729-230-49	2SC2712-YG			
Q3204	8-729-224-62	2SK246-GR			
Q6201	8-729-421-19	UN2213			
Q6203	8-729-421-19	UN2213			
Q6204	8-729-421-19	UN2213			
Q6208	8-729-421-19	UN2213			
		<RESISTOR>			
R1301	1-216-041-00	RES-CHIP	470	5%	1/10W
R1318	1-216-033-00	RES-CHIP	220	5%	1/10W
R1320	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1343	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1344	1-216-025-11	RES-CHIP	100	5%	1/10W
R1345	1-216-041-00	RES-CHIP	470	5%	1/10W
R1346	1-216-041-00	RES-CHIP	470	5%	1/10W
R1347	1-216-025-11	RES-CHIP	100	5%	1/10W
R1350	1-216-085-91	RES-CHIP	33K	5%	1/10W
R1359	1-216-025-11	RES-CHIP	100	5%	1/10W
R1360	1-216-041-00	RES-CHIP	470	5%	1/10W
R1361	1-216-041-00	RES-CHIP	470	5%	1/10W
R1362	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R1363	1-216-033-00	RES-CHIP	220	5%	1/10W
R1364	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1365	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1366	1-216-295-91	SHORT CHIP	0		
R1368	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1369	1-216-025-11	RES-CHIP	100	5%	1/10W
R1370	1-216-041-00	RES-CHIP	470	5%	1/10W
R1371	1-216-039-00	RES-CHIP	390	5%	1/10W
R1372	1-216-041-00	RES-CHIP	470	5%	1/10W
R1397	1-216-045-00	RES-CHIP	680	5%	1/10W
R1400	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1403	1-216-033-00	RES-CHIP	220	5%	1/10W
R1404	1-216-295-91	SHORT CHIP	0		
R1406	1-216-013-00	RES-CHIP	33	5%	1/10W
R1407	1-216-033-00	RES-CHIP	220	5%	1/10W
R1408	1-216-031-00	RES-CHIP	180	5%	1/10W
R1409	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1410	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1411	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1412	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1413	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1414	1-216-025-11	RES-CHIP	100	5%	1/10W
R1417	1-216-025-11	RES-CHIP	100	5%	1/10W
R1418	1-216-025-11	RES-CHIP	100	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R1421	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1424	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1425	1-216-047-91	RES-CHIP	820	5%	1/10W
R1426	1-216-025-11	RES-CHIP	100	5%	1/10W
R1427	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R1428	1-216-025-11	RES-CHIP	100	5%	1/10W
R1429	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1430	1-216-025-11	RES-CHIP	100	5%	1/10W
R1431	1-216-025-11	RES-CHIP	100	5%	1/10W
R1432	1-216-041-00	RES-CHIP	470	5%	1/10W
R1433	1-216-025-11	RES-CHIP	100	5%	1/10W
R1435	1-216-022-00	RES-CHIP	75	5%	1/10W
R1436	1-216-025-11	RES-CHIP	100	5%	1/10W
R1437	1-216-022-00	RES-CHIP	75	5%	1/10W
R1438	1-216-025-11	RES-CHIP	100	5%	1/10W
R1439	1-216-017-91	RES-CHIP	47	5%	1/10W
R1441	1-216-025-11	RES-CHIP	100	5%	1/10W
R1442	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1443	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1444	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1445	1-216-025-11	RES-CHIP	100	5%	1/10W
R1446	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1447	1-216-025-11	RES-CHIP	100	5%	1/10W
R1448	1-216-043-91	RES-CHIP	560	5%	1/10W
R1449	1-249-429-11	CARBON	10K	5%	1/4W
R1450	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1451	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1452	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1453	1-216-025-11	RES-CHIP	100	5%	1/10W
R1454	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1455	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1456	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1457	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1458	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1459	1-216-025-11	RES-CHIP	100	5%	1/10W
R1460	1-216-033-00	RES-CHIP	220	5%	1/10W
R1461	1-216-025-11	RES-CHIP	100	5%	1/10W
R1463	1-249-429-11	CARBON	10K	5%	1/4W
R1464	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1465	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1466	1-216-033-00	RES-CHIP	220	5%	1/10W
R1467	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1468	1-216-093-91	RES-CHIP	68K	5%	1/10W
R1469	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1470	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1471	1-216-022-00	RES-CHIP	75	5%	1/10W
R1472	1-216-033-00	RES-CHIP	220	5%	1/10W
R1473	1-216-033-00	RES-CHIP	220	5%	1/10W
R1475	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1476	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1477	1-216-047-91	RES-CHIP	820	5%	1/10W
R1478	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R1479	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1480	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1481	1-216-022-00	RES-CHIP	75	5%	1/10W
R1483	1-216-025-11	RES-CHIP	100	5%	1/10W
R1484	1-216-025-11	RES-CHIP	100	5%	1/10W
R1485	1-216-025-11	RES-CHIP	100	5%	1/10W
R1486	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1487	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1488	1-216-073-91	RES-CHIP	10K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R1489	1-216-022-00	RES-CHIP	75	5%	1/10W
R1490	1-216-025-11	RES-CHIP	100	5%	1/10W
R1491	1-216-025-11	RES-CHIP	100	5%	1/10W
R1492	1-216-021-00	RES-CHIP	68	5%	1/10W
R1493	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R1496	1-216-041-00	RES-CHIP	470	5%	1/10W
R1497	1-216-041-00	RES-CHIP	470	5%	1/10W
R1498	1-216-025-11	RES-CHIP	100	5%	1/10W
R1499	1-216-025-11	RES-CHIP	100	5%	1/10W
R1500	1-216-025-11	RES-CHIP	100	5%	1/10W
R1501	1-216-045-00	RES-CHIP	680	5%	1/10W
R1503	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1504	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1505	1-216-022-00	RES-CHIP	75	5%	1/10W
R1506	1-216-033-00	RES-CHIP	220	5%	1/10W
R1507	1-216-025-11	RES-CHIP	100	5%	1/10W
R3200	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3201	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3202	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3203	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3204	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R3205	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R3206	1-216-039-00	RES-CHIP	390	5%	1/10W
R3207	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3219	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3220	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3221	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3222	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3223	1-216-045-00	RES-CHIP	680	5%	1/10W
R3224	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3229	1-216-025-11	RES-CHIP	100	5%	1/10W
R3230	1-216-025-11	RES-CHIP	100	5%	1/10W
R3231	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3232	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3233	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R3234	1-216-039-00	RES-CHIP	390	5%	1/10W
R3235	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3236	1-216-113-00	RES-CHIP	470K	5%	1/10W
R3237	1-216-045-00	RES-CHIP	680	5%	1/10W
R3238	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3239	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3240	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3241	1-216-093-91	RES-CHIP	68K	5%	1/10W
R3242	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3245	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3246	1-216-045-00	RES-CHIP	680	5%	1/10W
R3251	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3252	1-216-113-00	RES-CHIP	470K	5%	1/10W
R3253	1-216-045-00	RES-CHIP	680	5%	1/10W
R3254	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3255	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3256	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3257	1-216-097-11	RES-CHIP	100K	5%	1/10W
R3258	1-216-121-11	RES-CHIP	1M	5%	1/10W
R3259	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R3262	1-216-101-00	RES-CHIP	150K	5%	1/10W
R3263	1-216-093-91	RES-CHIP	68K	5%	1/10W
R3267	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3268	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3269	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3271	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R3273	1-216-057-00	RES-CHIP	2.2K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R3274	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R3301	1-216-079-00	RES-CHIP	18K	5%	1/10W
R3302	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3303	1-216-079-00	RES-CHIP	18K	5%	1/10W
R3304	1-216-077-91	RES-CHIP	15K	5%	1/10W
R3305	1-216-077-91	RES-CHIP	15K	5%	1/10W
R3306	1-216-081-00	RES-CHIP	22K	5%	1/10W
R3307	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3308	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3309	1-216-025-11	RES-CHIP	100	5%	1/10W
R3310	1-216-025-11	RES-CHIP	100	5%	1/10W
R3311	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3312	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3313	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3314	1-216-073-91	RES-CHIP	10K	5%	1/10W
R3315	1-216-295-91	SHORT CHIP	0		
R3318	1-216-295-91	SHORT CHIP	0		
R6201	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6202	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6203	1-216-295-91	SHORT CHIP	0		
R6209	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6219	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6245	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6246	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6254	1-216-021-00	RES-CHIP	68	5%	1/10W
R6255	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R6258	1-216-021-00	RES-CHIP	68	5%	1/10W
R6259	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R6278	1-216-295-91	SHORT CHIP	0		

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* A-1401-567-A C6 BOARD MOUNTED (KV-AR29M60)
* A-1401-415-A C6 BOARD MOUNTED (KV-AR29M64(THAILAND)/M68)
* A-1401-681-A C6 BOARD MOUNTED (KV-AR29M64(INDIA)/M94)
* A-1401-676-A C6 BOARD MOUNTED (KV-AR29M66)
* A-1401-876-A C6 BOARD MOUNTED (KV-AR29N90)
****

4-382-854-11 SCREW (M3X10), P, SW (+)

<CAPACITOR>

C701	1-115-350-51	CERAMIC	0.0047UF		2KV
C702	1-102-074-00	CERAMIC	0.001UF	10.00%	50V
C708	1-102-114-00	CERAMIC	470PF	10.00%	50V
C709	1-102-114-00	CERAMIC	470PF	10.00%	50V
C710	1-102-114-00	CERAMIC	470PF	10.00%	50V
C712	1-102-115-00	CERAMIC	560PF	10.00%	50V
C713	1-102-112-00	CERAMIC	330PF	10.00%	50V
C714	1-102-112-00	CERAMIC	330PF	10.00%	50V
C716	1-126-933-11	ELECT	100UF	20.00%	16V
C717	1-107-651-11	ELECT	4.7UF	20.00%	250V
C718	1-102-106-00	CERAMIC	100PF	10.00%	50V
C1800	1-126-964-11	ELECT	10UF	20.00%	50V
C1803	1-126-964-11	ELECT	10UF	20.00%	50V
C1804	1-126-964-11	ELECT	10UF	20.00%	50V
C1809	1-126-942-61	ELECT	1000UF	20.00%	25V
C1810	1-102-106-00	CERAMIC	100PF	10.00%	50V

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

C6

REF NO.		PART NO.	DESCRIPTION	REMARK
			<CONNECTOR>	
CN700		1-695-915-11	TAB (CONTACT)	
CN702		1-695-915-11	TAB (CONTACT)	
CN703	*	1-564-509-11	PLUG, CONNECTOR 6P	
CN704		1-695-915-11	TAB (CONTACT)	
CN712	*	1-564-507-11	PLUG, CONNECTOR 4P	
CN1801	*	1-564-509-11	PLUG, CONNECTOR 6P	
CN1802	*	1-564-506-11	PLUG, CONNECTOR 3P	
			<DIODE>	
D701		8-719-911-19	1SS119-25	
D702		8-719-911-19	1SS119-25	
D703		8-719-911-19	1SS119-25	
D704		8-719-911-19	1SS119-25	
D705		8-719-911-19	1SS119-25	
D706		8-719-911-19	1SS119-25	
D707		8-719-911-19	1SS119-25	
D708		8-719-911-19	1SS119-25	
D709		8-719-911-19	1SS119-25	
D710		8-719-911-19	1SS119-25	
D711		8-719-911-19	1SS119-25	
D712		8-719-911-19	1SS119-25	
D716		8-719-911-19	1SS119-25	
D717		8-719-070-16	NNCD9.1A-T1	
D1803		8-719-911-19	1SS119-25	
D1804		8-719-911-19	1SS119-25	
D1808		8-719-908-03	GP08D	
			<IC>	
IC1800		8-759-822-38	LA6510	
			<JACK>	
J701	⚠	1-540-071-22	SOCKET, CRT	
			<COIL>	
L701		1-410-667-31	INDUCTOR 22UH	
L703		1-414-186-31	INDUCTOR 33UH	
L705		1-414-186-31	INDUCTOR 33UH	
L707		1-414-187-11	INDUCTOR 47UH	
			<TRANSISTOR>	
Q701		8-729-326-11	2SC2611	
Q702		8-729-326-11	2SC2611	
Q703		8-729-326-11	2SC2611	
Q704		8-729-326-11	2SC2611	
Q705		8-729-326-11	2SC2611	
Q706		8-729-326-11	2SC2611	
Q707		8-729-200-17	2SA1091-O	
Q708		8-729-200-17	2SA1091-O	
Q709		8-729-200-17	2SA1091-O	
Q710		8-729-119-78	2SC2785-HFE	
Q711		8-729-119-78	2SC2785-HFE	
Q712		8-729-119-78	2SC2785-HFE	
Q714		8-729-255-12	2SC2551-O	
Q1800		8-729-119-76	2SA1175-HFE	
Q1802		8-729-119-78	2SC2785-HFE	

REF NO.	PART NO.	DESCRIPTION			REMARK
		<RESISTOR>			
R701	1-219-752-11	METAL	100K	5%	1/2W
R705	1-216-392-11	METAL OXIDE	1.8	5%	3W
R710	1-215-923-00	METAL OXIDE	10K	5%	3W
R711	1-260-328-11	CARBON	1K	5%	1/2W
R712	1-215-923-00	METAL OXIDE	10K	5%	3W
R713	1-260-330-11	CARBON	1.5K	5%	1/2W
R714	1-215-923-00	METAL OXIDE	10K	5%	3W
R715	1-260-330-11	CARBON	1.5K	5%	1/2W
R716	1-249-899-11	CARBON	100	5%	1/4W
R717	1-249-899-11	CARBON	100	5%	1/4W
R718	1-249-899-11	CARBON	100	5%	1/4W
R719	1-215-469-00	METAL	100K	1%	1/4W
R720	1-249-923-11	CARBON	1K	5%	1/4W
R721	1-215-469-00	METAL	100K	1%	1/4W
		(KV-AR29M64(INDIA)/M66/M94)			
R722	1-249-923-11	CARBON	1K	5%	1/4W
R723	1-215-469-00	METAL	100K	1%	1/4W
R724	1-249-923-11	CARBON	1K	5%	1/4W
R725	1-249-424-11	CARBON	3.9K	5%	1/4W
R726	1-249-424-11	CARBON	3.9K	5%	1/4W
R727	1-249-424-11	CARBON	3.9K	5%	1/4W
R728	1-249-408-11	CARBON	180	5%	1/4W
R729	1-249-408-11	CARBON	180	5%	1/4W
R730	1-249-408-11	CARBON	180	5%	1/4W
R731	1-249-401-11	CARBON	47	5%	1/4W
R732	1-249-401-11	CARBON	47	5%	1/4W
R733	1-249-401-11	CARBON	47	5%	1/4W
R734	1-219-743-11	METAL	100	5%	1/2W
R738	1-247-807-31	CARBON	100	5%	1/4W
R739	1-247-807-31	CARBON	100	5%	1/4W
R740	1-247-807-31	CARBON	100	5%	1/4W
R747	1-215-926-00	METAL OXIDE	33K	5%	3W
R749	1-215-927-00	METAL OXIDE	47K	5%	3W
R751	1-215-926-00	METAL OXIDE	33K	5%	3W
R753	1-249-429-11	CARBON	10K	5%	1/4W
R755	1-249-427-11	CARBON	6.8K	5%	1/4W
R756	1-249-427-11	CARBON	6.8K	5%	1/4W
R757	1-249-427-11	CARBON	6.8K	5%	1/4W
R758	1-249-419-11	CARBON	1.5K	5%	1/4W
R759	1-249-419-11	CARBON	1.5K	5%	1/4W
R760	1-249-419-11	CARBON	1.5K	5%	1/4W
R1800	1-249-417-11	CARBON	1K	5%	1/4W
R1801	1-249-426-11	CARBON	5.6K	5%	1/4W
R1802	1-249-382-11	CARBON	1.2	5%	1/4W
R1803	1-249-382-11	CARBON	1.2	5%	1/4W
R1805	1-249-429-11	CARBON	10K	5%	1/4W
R1806	1-249-425-11	CARBON	4.7K	5%	1/4W
R1808	1-249-425-11	CARBON	4.7K	5%	1/4W
R1809	1-249-435-11	CARBON	33K	5%	1/4W
R1810	1-249-435-11	CARBON	33K	5%	1/4W
R1811	1-249-433-11	CARBON	22K	5%	1/4W
R1812	1-249-435-11	CARBON	33K	5%	1/4W
R1821	1-249-433-11	CARBON	22K	5%	1/4W
R1822	1-249-435-11	CARBON	33K	5%	1/4W
R1823	1-249-426-11	CARBON	5.6K	5%	1/4W
R1824	1-249-435-11	CARBON	33K	5%	1/4W
R1825	1-247-843-11	CARBON	3.3K	5%	1/4W

C6 D3 F

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.	PART NO.	DESCRIPTION			
		<VARIABLE RESISTOR>			
RV702	1-241-656-11	RES, ADJ, METAL FILM 110M			
RV1801	1-238-019-11	RES, ADJ, CARBON 47K			
**********					
	* A-1401-566-A	D3 BOARD MOUNTED (KV-AR29M60)			
	* A-1401-414-A	D3 BOARD MOUNTED (KV-AR29M64(THAILAND)/M68)			
	* A-1401-680-A	D3 BOARD MOUNTED (KV-AR29M64(INDIA)/M94)			
	* A-1401-674-A	D3 BOARD MOUNTED (KV-AR29M66)			
	* A-1401-875-A	D3 BOARD MOUNTED (KV-AR29N90)			
		**********			
		<CAPACITOR>			
C2800	1-126-947-11	ELECT	47UF	20.00%	25V
C2801	1-106-220-00	MYLAR	0.1UF	10.00%	100V
C2802	1-136-155-00	FILM	0.015UF	5.00%	50V
C2803	1-129-723-00	FILM	0.056UF	5.00%	630V
C2805	1-126-947-11	ELECT	47UF	20.00%	25V
C2806	1-106-383-00	MYLAR	0.047UF	5.00%	100V
C2807	1-137-194-81	FILM	0.47UF	5.00%	50V
C2808	1-126-964-11	ELECT	10UF	20.00%	50V
C2809	1-137-194-81	FILM	0.47UF	5.00%	50V
C2810	1-106-375-12	MYLAR	0.022UF	10.00%	250V
C2811	1-126-964-11	ELECT	10UF	20.00%	50V
C2812	1-126-964-11	ELECT	10UF	20.00%	50V
C2813	1-129-708-91	FILM	0.0033UF	5.00%	630V
		<CONNECTOR>			
CN2800 *	1-564-510-11	PLUG, CONNECTOR 7P			
CN2802 *	1-564-506-11	PLUG, CONNECTOR 3P			
CN2803	1-695-915-11	TAB (CONTACT)			
		<DIODE>			
D2800	8-719-075-05	DIODE FR104-A5 (KV-AR29M60/M64(THAILAND)/M68)			
D2800	8-719-302-43	EL1Z (KV-AR29M64(INDIA)/M66/M94/N90)			
D2801	8-719-911-19	1SS119-25			
D2802	8-719-911-19	1SS119-25			
D2803	8-719-911-19	1SS119-25			
		<IC>			
IC2800	8-759-701-59	NJM78M09FA			
IC2801	8-759-998-98	LM358D			
		<COIL>			
L2800	1-406-989-21	INDUCTOR	10MH		
L2802	1-406-987-11	INDUCTOR	4.7MH		
L2803	1-406-986-11	INDUCTOR	3.3MH		
L2804	1-406-678-11	INDUCTOR	15MH		
		<TRANSISTOR>			
Q2800	8-729-119-78	2SC2785-HFE			
Q2801	8-729-195-82	2SC2958			
Q2802	8-729-017-06	2SC4793			
Q2803	8-729-216-22	2SA1162-G			
Q2804	8-729-010-25	MSD601-RT1			
		<RESISTOR>			
R2800	1-249-405-11	CARBON	100	5%	1/4W
R2802	1-260-111-11	CARBON	10K	5%	1/2W
R2803	1-260-111-11	CARBON	10K	5%	1/2W
R2804	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R2805	1-216-097-11	RES-CHIP	100K	5%	1/10W
R2806	1-249-421-11	CARBON	2.2K	5%	1/4W
R2807	1-249-420-11	CARBON	1.8K	5%	1/4W
R2808	1-215-857-71	METAL OXIDE	10	5%	1W
R2809	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R2810	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2811	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R2812	1-216-081-00	RES-CHIP	22K	5%	1/10W
R2813	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R2814	1-216-121-11	RES-CHIP	1M	5%	1/10W
R2815	1-216-085-91	RES-CHIP	33K	5%	1/10W
R2816	1-216-107-00	RES-CHIP	270K	5%	1/10W
R2817	1-216-107-00	RES-CHIP	270K	5%	1/10W
		<TRANSFORMER>			
T2800	1-413-059-00	TRANSFORMER, FERRITE (DFT)			
**********					
	* A-1401-345-A	F BOARD MOUNTED (KV-AR29M60/M64(THAILAND)/M68)			
	* A-1401-481-A	F BOARD MOUNTED (KV-AR29M64(INDIA)/M94)			
	* A-1241-456-A	F BOARD MOUNTED (KV-AR29N90)			
	* A-1241-452-A	F BOARD MOUNTED (KV-AR29M66)			
		**********			
	1-533-223-11	CLIP, FUSE			
		<CAPACITOR>			
C654 ⚠	1-117-703-51	CERAMIC	0.0047UF	99%	250V
C4601 ⚠	1-113-511-11	MYLAR	0.47UF	20.00%	250V
C4602 ⚠	1-113-512-11	MYLAR	0.68UF	20.00%	250V
		<CONNECTOR>			
CN4601 *	1-580-843-11	PIN, CONNECTOR (POWER)			
CN4602 *	1-580-843-11	PIN, CONNECTOR (POWER)			
CN4603	1-695-915-11	TAB (CONTACT)			
		<FUSE>			
F4601 ⚠	1-576-334-11	FUSE, TIME-LAG 5A/250V			
		<RESISTOR>			
R4601 ⚠	1-219-759-91	METAL	1M	5%	1/2W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

F **H1** **H2**

REF NO.		PART NO.	DESCRIPTION	REMARK
			<TRANSFORMER>	
T4601	⚠	1-429-707-12	COIL, LINE FILTER	
			(EXCEPT KV-AR29M66/N90)	
T4601	⚠	1-429-707-12	TRANSFORMER, LINE FILTER	
			(KV-AR29M66/N90)	
T4602	⚠	1-435-214-11	COIL, LINE FILTER	
			(KV-AR29M60/M64(THAILAND)/M68)	
T4602	⚠	1-435-214-11	TRANSFORMER, LINE FILTER	
			(KV-AR29M64(INDIA)/M66/M94/N90)	

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	*	A-1401-322-A	H1 BOARD MOUNTED (KV-AR29M60/M64(THAILAND)/M68)		
	*	A-1401-474-A	H1 BOARD MOUNTED (KV-AR29M64(INDIA)/M94)		
	*	A-1400-972-A	H1 BOARD MOUNTED (KV-AR29M66/N90)		
			**********		
			<CAPACITOR>		
C3900		1-136-153-00	FILM	0.01UF	5.00% 50V
C3902		1-136-153-00	FILM	0.01UF	5.00% 50V
C3904		1-126-947-11	ELECT	47UF	20.00% 25V
C3905		1-126-963-11	ELECT	4.7UF	20.00% 50V
C3906		1-126-963-11	ELECT	4.7UF	20.00% 50V
C3910		1-126-947-11	ELECT	47UF	20.00% 16V
C3911		1-126-947-11	ELECT	47UF	20.00% 16V
C3913		1-126-960-11	ELECT	1UF	20.00% 50V
			(EXCEPT KV-AR29M64(INDIA)/M94)		
C3913		1-125-799-91	ELECT	1UF	20.00% 63V
			(KV-AR29M64(INDIA)/M94)		
			<CONNECTOR>		
CN3901	*	1-564-507-11	PLUG, CONNECTOR 4P		
CN3902	*	1-564-509-11	PLUG, CONNECTOR 6P		
CN3904	*	1-564-512-11	PLUG, CONNECTOR 9P		
CN3905	*	1-564-512-11	PLUG, CONNECTOR 9P		
CN3907	*	1-564-521-11	PLUG, CONNECTOR 6P		
			<DIODE>		
D3900		8-719-070-16	NNCD9.1A-T1		
D3901		8-719-070-16	NNCD9.1A-T1		
D3905		8-719-070-16	NNCD9.1A-T1		
D3907		8-719-070-16	NNCD9.1A-T1		
D3908		8-719-070-16	NNCD9.1A-T1		
			<JACK>		
J3901		1-750-264-11	JACK		
J3902		1-784-646-11	TERMINAL, S		
J3903		1-770-329-13	JACK, PIN 3P		
			<COIL>		
L3901		1-414-183-41	INDUCTOR	10UH	
L3902		1-414-183-41	INDUCTOR	10UH	

REF NO.	PART NO.	DESCRIPTION			REMARK
		<TRANSISTOR>			
Q3901	8-729-030-02	DTC144ESA			
Q3902	8-729-030-02	DTC144ESA			
		<RESISTOR>			
R3900	1-249-411-11	CARBON	330	5%	1/4W
R3901	1-249-411-11	CARBON	330	5%	1/4W
R3902	1-247-804-11	CARBON	75	5%	1/4W
R3904	1-249-429-11	CARBON	10K	5%	1/4W
R3905	1-249-429-11	CARBON	10K	5%	1/4W
R3907	1-249-426-11	CARBON	5.6K	5%	1/4W
R3908	1-249-413-11	CARBON	470	5%	1/4W
R3909	1-249-417-11	CARBON	1K	5%	1/4W
R3910	1-249-420-11	CARBON	1.8K	5%	1/4W
R3911	1-249-411-11	CARBON	330	5%	1/4W
R3912	1-247-843-11	CARBON	3.3K	5%	1/4W
R3913	1-249-429-11	CARBON	10K	5%	1/4W
R3914	1-249-411-11	CARBON	330	5%	1/4W
R3915	1-249-429-11	CARBON	10K	5%	1/4W
R3916	1-249-401-11	CARBON	47	5%	1/4W
R3917	1-247-804-11	CARBON	75	5%	1/4W
R3918	1-247-807-31	CARBON	100	5%	1/4W
R3919	1-249-409-11	CARBON	220	5%	1/4W
R3920	1-247-807-31	CARBON	100	5%	1/4W
R3921	1-247-807-31	CARBON	100	5%	1/4W
R3922	1-249-421-11	CARBON	2.2K	5%	1/4W
		<SWITCH>			
S3902	1-692-431-21	SWITCH, TACTILE			
S3903	1-692-431-21	SWITCH, TACTILE			
S3904	1-692-431-21	SWITCH, TACTILE			
S3905	1-692-431-21	SWITCH, TACTILE			
S3906	1-692-431-21	SWITCH, TACTILE			
S3907	1-692-431-21	SWITCH, TACTILE			
S3908	1-692-431-21	SWITCH, TACTILE			

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	*	A-1401-323-A	H2 BOARD MOUNTED (KV-AR29M60/M64(THAILAND)/M68)		
	*	A-1401-475-A	H2 BOARD MOUNTED (KV-AR29M64(INDIA)/M94)		
	*	A-1400-973-A	H2 BOARD MOUNTED (KV-AR29M66/N90)		
			**********		
	*	4-055-304-11	HOLDER, LED		
			<CAPACITOR>		
C3912		1-102-114-00	CERAMIC	470PF	10.00% 50V
			<CONNECTOR>		
CN3601	*	1-580-844-11	PIN, CONNECTOR (POWER)		
CN3602	*	1-580-844-11	PIN, CONNECTOR (POWER)		
CN3603	*	1-564-521-11	PLUG, CONNECTOR 6P		

H2 J P5

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF NO.	PART NO.	DESCRIPTION			REMARK
		<DIODE>			
D3906	8-719-083-18	DIODE SPB-25MVWF			
		<IC>			
IC3901	6-600-129-01	IC RPM7140-H5			
		<SWITCH>			
S3601	⚠ 1-571-433-31	SWITCH, PUSH (AC POWER)			
**********					
	* A-1401-328-A	J BOARD MOUNTED (KV-AR29M60/M64(THAILAND)/M68)			
	* A-1401-480-A	J BOARD MOUNTED (KV-AR29M64(INDIA)/M94)			
	* A-1400-975-A	J BOARD MOUNTED (KV-AR29M66/N90)			
		**********			
		<CAPACITOR>			
C2410	1-126-967-11	ELECT	47UF	20.00%	50V
C2411	1-126-967-11	ELECT	47UF	20.00%	50V
C2412	1-126-967-11	ELECT	47UF	20.00%	50V
C2413	1-102-112-00	CERAMIC	330PF	10.00%	50V
C2414	1-102-112-00	CERAMIC	330PF	10.00%	50V
C2418	1-126-960-11	ELECT	1UF	20.00%	50V
C2419	1-126-960-11	ELECT	1UF	20.00%	50V
		<CONNECTOR>			
CN2410	* 1-564-523-11	PLUG, CONNECTOR 8P			
		<DIODE>			
D2410	8-719-070-16	NNCD9.1A-T1			
D2411	8-719-070-16	NNCD9.1A-T1			
D2412	8-719-070-16	NNCD9.1A-T1			
D2414	8-719-070-16	NNCD9.1A-T1			
D2415	8-719-070-16	NNCD9.1A-T1			
		<JACK>			
J2410	1-784-623-11	BLOCK, PIN JACK 5P			
		<RESISTOR>			
R2410	1-247-804-11	CARBON	75	5%	1/4W
R2411	1-247-804-11	CARBON	75	5%	1/4W
R2412	1-247-804-11	CARBON	75	5%	1/4W
R2414	1-247-887-00	CARBON	220K	5%	1/4W
R2415	1-247-807-31	CARBON	100	5%	1/4W
R2417	1-247-887-00	CARBON	220K	5%	1/4W
R2418	1-247-807-31	CARBON	100	5%	1/4W
R2419	1-249-409-11	CARBON	220	5%	1/4W
R2420	1-249-409-11	CARBON	220	5%	1/4W
R2421	1-249-409-11	CARBON	220	5%	1/4W

REF NO.	PART NO.	DESCRIPTION	REMARK
**********			
	* A-1401-325-A	P5 BOARD MOUNTED (KV-AR29M64(THAILAND))	
	* A-1401-476-A	P5 BOARD MOUNTED (KV-AR29M64(INDIA)/M94)	
	* A-1401-241-A	P5 BOARD MOUNTED (KV-AR29M66)	
	* A-1401-487-A	P5 BOARD MOUNTED (KV-AR29M68)	
		**********	
		<CAPACITOR>	
C4002	1-107-823-11	CERAMIC CHIP 0.47UF 10.00% 16V (EXCEPT KV-AR29M68)	
C4003	1-126-204-11	ELECT CHIP 47UF 20.00% 16V (EXCEPT KV-AR29M68)	
C4004	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4005	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4006	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4007	1-126-394-11	ELECT CHIP 10UF 20.00% 16V (EXCEPT KV-AR29M68)	
C4008	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4009	1-163-227-11	CERAMIC CHIP 10PF 0.50PF 50V (EXCEPT KV-AR29M68)	
C4010	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4011	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4012	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4013	1-163-227-11	CERAMIC CHIP 10PF 0.50PF 50V (EXCEPT KV-AR29M68)	
C4014	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4015	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4016	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4017	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4018	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4019	1-126-394-11	ELECT CHIP 10UF 20.00% 16V (EXCEPT KV-AR29M68)	
C4020	1-126-394-11	ELECT CHIP 10UF 20.00% 16V (EXCEPT KV-AR29M68)	
C4021	1-126-394-11	ELECT CHIP 10UF 20.00% 16V (EXCEPT KV-AR29M68)	
C4022	1-126-394-11	ELECT CHIP 10UF 20.00% 16V (EXCEPT KV-AR29M68)	
C4023	1-126-394-11	ELECT CHIP 10UF 20.00% 16V (EXCEPT KV-AR29M68)	
C4024	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4025	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4027	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V (EXCEPT KV-AR29M68)	
C4028	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	
C4029	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V (EXCEPT KV-AR29M68)	

P5

REF NO.	PART NO.	DESCRIPTION			REMARK
C4030	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
		(EXCEPT KV-AR29M68)			
C4031	1-117-720-11	CERAMIC CHIP	4.7UF		10V
		(EXCEPT KV-AR29M68)			
C4032	1-117-720-11	CERAMIC CHIP	4.7UF		10V
		(EXCEPT KV-AR29M68)			
C4034	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
		(EXCEPT KV-AR29M68)			
C4035	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
		(EXCEPT KV-AR29M68)			
C4036	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
		(EXCEPT KV-AR29M68)			
C4101	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C4102	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C4103	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4104	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4105	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4107	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4108	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4109	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4110	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4113	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4114	1-126-396-11	ELECT CHIP	47UF	20.00%	16V
C4115	1-126-396-11	ELECT CHIP	47UF	20.00%	16V
C4116	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4117	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4118	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4121	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4122	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4123	1-164-346-11	CERAMIC CHIP	1UF		16V
C4124	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4125	1-164-346-11	CERAMIC CHIP	1UF		16V
C4126	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C4127	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4129	1-126-601-11	ELECT CHIP	2.2UF	20.00%	50V
C4130	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C4131	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C4132	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4135	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4139	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4140	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4141	1-164-346-11	CERAMIC CHIP	1UF		16V
		(EXCEPT KV-AR29M68)			
C4142	1-164-346-11	CERAMIC CHIP	1UF		16V
		(EXCEPT KV-AR29M68)			
C4143	1-164-346-11	CERAMIC CHIP	1UF		16V
		(EXCEPT KV-AR29M68)			
C4144	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4153	1-126-398-11	ELECT CHIP	4.7UF	20.00%	35V
C4154	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4155	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4156	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4157	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C4158	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C4159	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C4160	1-164-346-11	CERAMIC CHIP	1UF		16V
C4164	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4168	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4169	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4170	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4172	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C4173	1-126-204-11	ELECT CHIP	47UF	20.00%	16V

REF NO.	PART NO.	DESCRIPTION			REMARK
C4175	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C4179	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4180	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4181	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4189	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4190	1-126-396-11	ELECT CHIP	47UF	20.00%	16V
C4191	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
		(EXCEPT KV-AR29M68)			
C4193	1-124-778-00	ELECT CHIP	22UF	20.00%	6.3V
		(EXCEPT KV-AR29M68)			
C4194	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
		(EXCEPT KV-AR29M68)			
C4204	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4205	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4206	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4207	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4208	1-126-392-11	ELECT CHIP	100UF	20.00%	6.3V
C4209	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4210	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4211	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4212	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4213	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4214	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4218	1-126-398-11	ELECT CHIP	4.7UF	20.00%	35V
C4219	1-126-398-11	ELECT CHIP	4.7UF	20.00%	35V
C4220	1-126-398-11	ELECT CHIP	4.7UF	20.00%	35V
C4221	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C4222	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4223	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4224	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C4225	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4226	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4227	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4228	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4229	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4230	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4231	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4232	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4233	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4234	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4235	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4236	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4237	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4238	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4239	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4240	1-163-007-11	CERAMIC CHIP	680PF	10.00%	50V
C4241	1-126-603-11	ELECT CHIP	4.7UF	20.00%	35V
C4242	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4243	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C4244	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4245	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4246	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4248	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4249	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4255	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4256	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4257	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4258	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4259	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4260	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4262	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4263	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4264	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C4265	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4301	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4302	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4303	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C4304	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4305	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4306	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4307	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4308	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4309	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4310	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4311	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4401	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4402	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C4403	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4404	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4405	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4406	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4407	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4408	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4409	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4410	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4411	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C4412	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4413	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C4414	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4415	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4416	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4417	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4418	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4419	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4420	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4421	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4422	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4423	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4424	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4425	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4426	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C4427	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4428	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4429	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4430	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4431	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4432	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4433	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4434	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4438	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4439	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4442	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4444	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4445	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4446	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C4448	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4449	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4450	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C4451	1-126-396-11	ELECT CHIP	47UF	20.00%	16V
C4452	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4453	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4454	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C4455	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C4465	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4466	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4467	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C5001	1-128-994-21	ELECT CHIP (KV-AR29M64(THAILAND)/M68)	47UF	20%	10V
C5002	1-164-004-11	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	0.1UF	10.00%	25V
C5003	1-163-259-91	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	220PF	5.00%	50V
C5004	1-163-127-00	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	270PF	5.00%	50V
C5005	1-163-249-11	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	82PF	5.00%	50V
C5006	1-164-004-11	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	0.1UF	10.00%	25V
C5007	1-163-127-00	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	270PF	5.00%	50V
C5008	1-163-249-11	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	82PF	5.00%	50V
C5009	1-163-259-91	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	220PF	5.00%	50V
C5010	1-163-251-11	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	100PF	5.00%	50V
C5011	1-163-251-11	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	100PF	5.00%	50V
C5012	1-163-133-00	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	470PF	5.00%	50V
C5013	1-163-133-00	CERAMIC CHIP (KV-AR29M64(THAILAND)/M68)	470PF	5.00%	50V
		<CONNECTOR>			
CN4101 *	1-564-523-11	PLUG, CONNECTOR 8P			
CN4102 *	1-564-520-11	PLUG, CONNECTOR 5P			
CN4103 *	1-564-518-11	PLUG, CONNECTOR 3P			
CN4104	1-764-811-11	CONNECTOR, BOARD TO BOARD 10P			
CN4105	1-764-811-11	CONNECTOR, BOARD TO BOARD 10P			
CN4106 *	1-564-519-11	PLUG, CONNECTOR 4P			
CN4108 *	1-564-518-11	PLUG, CONNECTOR 3P			
		<DIODE>			
D4003	8-719-069-60	UDZSTE-179.1B (EXCEPT KV-AR29M68)			
D4102	8-719-081-97	MMDL914T1 (KV-AR29M64(THAILAND)/M66)			
D4400	8-719-081-97	MMDL914T1 (KV-AR29M64(THAILAND)/M68)			
D4400	8-719-404-50	MA111-TX (KV-AR29M64(INDIA)/M94/M66)			
D4403	1-216-295-91	CONDUCTOR CHIP (KV-AR29M60(THAILAND))			
D4403	8-719-404-50	MA111-TX (KV-AR29M64(INDIA)/M94/M66)			
D4403	8-719-081-97	MMDL914T1 (KV-AR29M68)			
D4404	8-719-404-50	MA111-TX (KV-AR29M64(INDIA)/M94/M66)			
D4404	8-719-081-97	MMDL914T1 (KV-AR29M68)			
D4405	8-719-404-50	MA111-TX (KV-AR29M64(INDIA)/M94/M66)			
D4405	8-719-081-97	MMDL914T1 (KV-AR29M68)			
		<FERRITE BEAD>			
FB4401	1-234-330-21	FILTER, EMI			
		<FILTER>			
FL4101	1-234-177-21	FERRITE	0UH		
FL4102	1-234-177-21	FERRITE	0UH		

P5

REF NO.	PART NO.	DESCRIPTION	REMARK
FL4103	1-234-177-21	FERRITE 0UH	
FL4104	1-234-177-21	FERRITE 0UH	
FL4105	1-234-177-21	FERRITE 0UH (EXCEPT KV-AR29M68)	
FL4106	1-234-177-21	FERRITE 0UH	
FL4107	1-234-177-21	FERRITE 0UH (EXCEPT KV-AR29M68)	
FL4108	1-234-177-21	FERRITE 0UH (EXCEPT KV-AR29M68)	
FL4109	1-234-177-21	FERRITE 0UH (EXCEPT KV-AR29M68)	
FL4110	1-234-177-21	FERRITE 0UH (EXCEPT KV-AR29M68)	
FL4111	1-234-177-21	FERRITE 0UH	
FL4112	1-234-177-21	FERRITE 0UH	
FL4201	1-233-877-11	FILTER, LOW PASS	
FL4202	1-233-504-21	FILTER, LOW PASS	
FL4203	1-233-504-21	FILTER, LOW PASS	
FL4204	1-234-177-21	FERRITE 0UH	
FL4205	1-234-177-21	FERRITE 0UH	
FL4206	1-234-177-21	FERRITE 0UH	
FL4207	1-234-177-21	FERRITE 0UH	
FL4209	1-234-177-21	FERRITE 0UH	
FL4301	1-234-177-21	FERRITE 0UH	
FL4401	1-234-177-21	FERRITE 0UH	
FL4402	1-234-177-21	FERRITE 0UH	
FL4403	1-234-177-21	FERRITE 0UH	
FL4404	1-234-177-21	FERRITE 0UH	
FL4405	1-233-877-11	FILTER, LOW PASS	
FL4406	1-233-504-21	FILTER, LOW PASS	
FL4407	1-233-504-21	FILTER, LOW PASS	
FL4409	1-234-177-21	FERRITE 0UH	
		<IC>	
IC4101	8-759-460-72	BA033FP-E2 (EXCEPT KV-AR29M68)	
IC4102	8-759-666-90	IC TDA9181T	
IC4103	8-759-830-24	SDA9588XB23 (EXCEPT KV-AR29M68)	
IC4104	8-752-099-05	IC CXA2163AQ-T6	
IC4105	8-759-485-79	TC7SET08FU(TE85L	
IC4106	8-759-576-72	LF50CDT-TR	
IC4201	8-759-460-72	BA033FP-E2	
IC4202	8-759-427-92	PST9126NL	
IC4203	6-702-548-01	IC CXD9694Q	
IC4301	6-702-550-01	IC CXD9695Q	
IC4401	8-759-832-05	IC BA18BC0FP-E2	
IC4402	6-702-549-01	IC CXD9696Q	
IC4403	8-759-669-78	TLC2933IPWR-12	
IC4404	8-759-058-56	TC7S02FU(TE85R)	
IC4405	8-759-576-72	LF50CDT-TR	
IC5001	8-759-439-64	HEF4053BT (KV-AR29M64(THAILAND)/AR29M68)	
IC5002	8-759-481-08	IC TC7SET02FU(TE85R) (KV-AR29M64(THAILAND)/AR29M68)	
		<CHIP CONDUCTOR>	
JR5001	1-216-295-91	SHORT CHIP 0 (KV-AR29M64(INDIA)/M94/M66)	
JR5002	1-216-295-91	SHORT CHIP 0 (KV-AR29M64(INDIA)/M94/M66)	
JR5003	1-216-295-91	SHORT CHIP 0 (KV-AR29M64(INDIA)/M94/M66)	

REF NO.	PART NO.	DESCRIPTION	REMARK
		<COIL>	
L4101	1-412-029-11	INDUCTOR 10UH	
L4104	1-412-029-11	INDUCTOR 10UH	
L4105	1-412-029-11	INDUCTOR 10UH	
L4106	1-412-029-11	INDUCTOR 10UH (EXCEPT KV-AR29M68)	
L4107	1-412-029-11	INDUCTOR 10UH (EXCEPT KV-AR29M68)	
L4108	1-412-030-11	INDUCTOR 22UH (EXCEPT KV-AR29M68)	
L4201	1-412-031-11	INDUCTOR 47UH	
L4202	1-412-031-11	INDUCTOR 47UH	
L4203	1-412-031-11	INDUCTOR 47UH	
L4204	1-412-031-11	INDUCTOR 47UH	
L4205	1-412-029-11	INDUCTOR 10UH	
L4301	1-412-029-11	INDUCTOR 10UH	
L4401	1-412-029-11	INDUCTOR 10UH	
L4402	1-412-031-11	INDUCTOR 47UH	
L4403	1-412-031-11	INDUCTOR 47UH	
L4404	1-412-031-11	INDUCTOR 47UH	
L4406	1-412-029-11	INDUCTOR 10UH	
L4407	1-412-029-11	INDUCTOR 10UH	
L4408	1-412-029-11	INDUCTOR 10UH	
L5001	1-412-006-31	INDUCTOR 10UH (KV-AR29M64(THAILAND)/AR29M68)	
L5002	1-412-006-31	INDUCTOR 10UH (KV-AR29M64(THAILAND)/AR29M68)	
		<TRANSISTOR>	
Q4101	8-729-120-28	2SC1623-L5L6 (EXCEPT KV-AR29M68)	
Q4102	8-729-026-49	2SA1037AK-T146-R (EXCEPT KV-AR29M68)	
Q4106	8-729-120-28	2SC1623-L5L6	
Q4107	8-729-026-49	2SA1037AK-T146-R	
Q4108	1-801-806-11	TR DTC144EKA	
Q4112	8-729-120-28	2SC1623-L5L6	
Q4113	8-729-026-49	2SA1037AK-T146-R (EXCEPT KV-AR29M68)	
Q4114	8-729-026-49	2SA1037AK-T146-R	
Q4115	8-729-026-49	2SA1037AK-T146-R (EXCEPT KV-AR29M68)	
Q4116	8-729-026-49	2SA1037AK-T146-R	
Q4117	8-729-026-49	2SA1037AK-T146-R	
Q4118	8-729-120-28	2SC1623-L5L6 (EXCEPT KV-AR29M68)	
Q4119	8-729-026-49	2SA1037AK-T146-R (EXCEPT KV-AR29M68)	
Q4120	8-729-026-49	2SA1037AK-T146-R (EXCEPT KV-AR29M68)	
Q4121	8-729-026-49	2SA1037AK-T146-R (EXCEPT KV-AR29M68)	
Q4122	8-729-120-28	2SC1623-L5L6	
Q4123	8-729-120-28	2SC1623-L5L6	
Q4124	8-729-120-28	2SC1623-L5L6	
Q4125	8-729-026-49	2SA1037AK-T146-R (EXCEPT KV-AR29M68)	
Q4126	8-729-026-49	2SA1037AK-T146-R (EXCEPT KV-AR29M68)	
Q4127	8-729-026-49	2SA1037AK-T146-R (EXCEPT KV-AR29M68)	
Q4128	8-729-026-49	2SA1037AK-T146-R (EXCEPT KV-AR29M68)	
Q4129	8-729-120-28	2SC1623-L5L6	
Q4130	8-729-120-28	2SC1623-L5L6	
Q4131	8-729-120-28	2SC1623-L5L6	
Q4132	8-729-026-49	2SA1037AK-T146-R	
Q4133	8-729-026-49	2SA1037AK-T146-R	
Q4134	8-729-026-49	2SA1037AK-T146-R	
Q4135	8-729-120-28	2SC1623-L5L6	
Q4136	8-729-120-28	2SC1623-L5L6	

REF NO.	PART NO.	DESCRIPTION	REMARK
Q4137	8-729-120-28	2SC1623-L5L6	
Q4138	8-729-026-49	2SA1037AK-T146-R	
Q4139	8-729-026-49	2SA1037AK-T146-R	
Q4140	8-729-026-49	2SA1037AK-T146-R	
Q4141	8-729-120-28	2SC1623-L5L6	
Q4142	8-729-120-28	2SC1623-L5L6	
Q4143	8-729-120-28	2SC1623-L5L6	
Q4146	8-729-026-49	2SA1037AK-T146-R	
Q4201	8-729-120-28	2SC1623-L5L6	
Q4202	8-729-120-28	2SC1623-L5L6	
Q4203	8-729-120-28	2SC1623-L5L6	
Q4204	8-729-120-28	2SC1623-L5L6	
Q4205	8-729-120-28	2SC1623-L5L6	
Q4206	8-729-120-28	2SC1623-L5L6	
Q4207	8-729-028-28	2SK2036(TE85L)	
Q4208	8-729-120-28	2SC1623-L5L6	
Q4209	8-729-028-28	2SK2036(TE85L)	
Q4210	8-729-120-28	2SC1623-L5L6	
Q4211	8-729-120-28	2SC1623-L5L6	
Q4212	1-801-806-11	TR DTC144EKA	
Q4213	8-729-120-28	2SC1623-L5L6	
Q4214	8-729-120-28	2SC1623-L5L6	
Q4215	8-729-026-49	2SA1037AK-T146-R	
Q4216	8-729-026-49	2SA1037AK-T146-R	
Q4217	8-729-026-49	2SA1037AK-T146-R	
Q4401	8-729-026-49	2SA1037AK-T146-R	
Q4402	8-729-026-49	2SA1037AK-T146-R	
Q4403	8-729-026-49	2SA1037AK-T146-R	
Q4404	8-729-026-49	2SA1037AK-T146-R	
Q4405	8-729-026-49	2SA1037AK-T146-R	
Q4406	8-729-026-49	2SA1037AK-T146-R	
Q4407	8-729-026-49	2SA1037AK-T146-R	
Q4408	8-729-120-28	2SC1623-L5L6	
Q4409	8-729-026-49	2SA1037AK-T146-R	
Q4410	8-729-120-28	2SC1623-L5L6	
Q4420	8-729-026-49	2SA1037AK-T146-R	
Q5001	8-729-026-49	2SA1037AK-T146-R (KV-AR29M64(THAILAND)/AR29M68)	
Q5002	8-729-026-49	2SA1037AK-T146-R (KV-AR29M64(THAILAND)/AR29M68)	
Q5003	8-729-026-49	2SA1037AK-T146-R (KV-AR29M64(THAILAND)/AR29M68)	
Q5004	8-729-120-28	2SC1623-L5L6 (KV-AR29M64(THAILAND)/AR29M68)	
Q5005	8-729-026-49	2SA1037AK-T146-R (KV-AR29M64(THAILAND)/AR29M68)	
Q5006	8-729-120-28	2SC1623-L5L6 (KV-AR29M64(THAILAND)/AR29M68)	
Q5007	8-729-026-49	2SA1037AK-T146-R (KV-AR29M64(THAILAND)/AR29M68)	
Q5008	8-729-120-28	2SC1623-L5L6 (KV-AR29M64(THAILAND)/AR29M68)	
Q5011	8-729-026-49	2SA1037AK-T146-R (KV-AR29M64(THAILAND)/AR29M68)	
Q5012	8-729-120-28	2SC1623-L5L6 (KV-AR29M64(THAILAND)/AR29M68)	
Q5014	8-729-026-49	2SA1037AK-T146-R (KV-AR29M64(THAILAND)/AR29M68)	
Q5015	8-729-120-28	2SC1623-L5L6 (KV-AR29M64(THAILAND)/AR29M68)	
Q5016	8-729-120-28	2SC1623-L5L6 (KV-AR29M64(THAILAND)/AR29M68)	

REF NO.	PART NO.	DESCRIPTION			REMARK
		<RESISTOR>			
R4001	1-125-889-91	CERAMIC CHIP	2.2UF	10%	10V
R4003	1-216-377-11	METAL OXIDE	4.7	5%	2W
R4004	1-215-881-11	METAL OXIDE (EXCEPT KV-AR29M68)	15	5%	2W
R4005	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4006	1-216-081-00	RES-CHIP (EXCEPT KV-AR29M68)	22K	5%	1/10W
R4007	1-216-073-91	RES-CHIP (EXCEPT KV-AR29M68)	10K	5%	1/10W
R4008	1-216-033-00	RES-CHIP (EXCEPT KV-AR29M68)	220	5%	1/10W
R4009	1-216-005-00	RES-CHIP (EXCEPT KV-AR29M68)	15	5%	1/10W
R4010	1-216-041-00	RES-CHIP (EXCEPT KV-AR29M68)	470	5%	1/10W
R4011	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4012	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4013	1-216-073-91	RES-CHIP (EXCEPT KV-AR29M68)	10K	5%	1/10W
R4014	1-216-073-91	RES-CHIP (EXCEPT KV-AR29M68)	10K	5%	1/10W
R4015	1-216-295-91	SHORT CHIP	0 (EXCEPT KV-AR29M68)		
R4016	1-216-639-11	METAL CHIP (EXCEPT KV-AR29M68)	330	0.5%	1/10W
R4017	1-216-049-11	RES-CHIP (EXCEPT KV-AR29M68)	1K	5%	1/10W
R4018	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4019	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4020	1-216-053-00	RES-CHIP (EXCEPT KV-AR29M68)	1.5K	5%	1/10W
R4021	1-216-053-00	RES-CHIP (EXCEPT KV-AR29M68)	1.5K	5%	1/10W
R4022	1-216-041-00	RES-CHIP (EXCEPT KV-AR29M68)	470	5%	1/10W
R4023	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4024	1-216-041-00	RES-CHIP (EXCEPT KV-AR29M68)	470	5%	1/10W
R4025	1-216-049-11	RES-CHIP (EXCEPT KV-AR29M68)	1K	5%	1/10W
R4026	1-216-049-11	RES-CHIP (EXCEPT KV-AR29M68)	1K	5%	1/10W
R4027	1-216-649-11	METAL CHIP (EXCEPT KV-AR29M68)	820	0.5%	1/10W
R4028	1-216-649-11	METAL CHIP (EXCEPT KV-AR29M68)	820	0.5%	1/10W
R4029	1-216-051-00	RES-CHIP (EXCEPT KV-AR29M68)	1.2K	5%	1/10W
R4030	1-216-041-00	RES-CHIP (EXCEPT KV-AR29M68)	470	5%	1/10W
R4031	1-216-041-00	RES-CHIP (EXCEPT KV-AR29M68)	470	5%	1/10W
R4032	1-216-041-00	RES-CHIP (EXCEPT KV-AR29M68)	470	5%	1/10W
R4033	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4034	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W

P5

REF NO.	PART NO.	DESCRIPTION		REMARK	
R4035	1-216-097-11	RES-CHIP (EXCEPT KV-AR29M68)	100K	5%	1/10W
R4036	1-216-121-11	RES-CHIP (EXCEPT KV-AR29M68)	1M	5%	1/10W
R4037	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4038	1-216-073-91	RES-CHIP (EXCEPT KV-AR29M68)	10K	5%	1/10W
R4039	1-216-089-91	RES-CHIP (EXCEPT KV-AR29M68)	47K	5%	1/10W
R4040	1-216-089-91	RES-CHIP (EXCEPT KV-AR29M68)	47K	5%	1/10W
R4041	1-216-089-91	RES-CHIP (EXCEPT KV-AR29M68)	47K	5%	1/10W
R4042	1-216-089-91	RES-CHIP (EXCEPT KV-AR29M68)	47K	5%	1/10W
R4043	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4044	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4045	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4046	1-216-049-11	RES-CHIP (EXCEPT KV-AR29M68)	1K	5%	1/10W
R4047	1-216-049-11	RES-CHIP (EXCEPT KV-AR29M68)	1K	5%	1/10W
R4048	1-216-049-11	RES-CHIP (EXCEPT KV-AR29M68)	1K	5%	1/10W
R4049	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4050	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4051	1-216-025-11	RES-CHIP (EXCEPT KV-AR29M68)	100	5%	1/10W
R4053	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4054	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4057	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4060	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4067	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4068	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4069	1-216-295-91	SHORT CHIP	0		
R4071	1-216-025-11	RES-CHIP	100	5%	1/10W
R4072	1-216-041-00	RES-CHIP	470	5%	1/10W
R4073	1-216-025-11	RES-CHIP	100	5%	1/10W
R4074	1-216-041-00	RES-CHIP	470	5%	1/10W
R4075	1-216-025-11	RES-CHIP	100	5%	1/10W
R4076	1-216-041-00	RES-CHIP	470	5%	1/10W
R4080	1-216-037-00	RES-CHIP	330	5%	1/10W
R4081	1-216-041-00	RES-CHIP	470	5%	1/10W
R4082	1-216-295-91	SHORT CHIP	0		
R4083	1-216-041-00	RES-CHIP	470	5%	1/10W
R4084	1-216-025-11	RES-CHIP	100	5%	1/10W
R4085	1-216-037-00	RES-CHIP	330	5%	1/10W
R4086	1-216-041-00	RES-CHIP	470	5%	1/10W
R4087	1-216-295-91	SHORT CHIP	0		
R4088	1-216-041-00	RES-CHIP	470	5%	1/10W
R4089	1-216-295-91	SHORT CHIP	0		
R4090	1-216-033-00	RES-CHIP	220	5%	1/10W
R4091	1-216-041-00	RES-CHIP	470	5%	1/10W
R4092	1-216-295-91	SHORT CHIP	0		
R4095	1-216-049-11	RES-CHIP (EXCEPT KV-AR29M68)	1K	5%	1/10W
R4096	1-216-049-11	RES-CHIP (EXCEPT KV-AR29M68)	1K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R4097	1-216-295-91	SHORT CHIP	0		
R4100	1-216-121-11	RES-CHIP	1M	5%	1/10W
R4101	1-216-295-91	SHORT CHIP	0		
R4102	1-216-295-91	SHORT CHIP	0		
R4103	1-218-179-11	RES-CHIP	10M	5%	1/10W
R4104	1-216-025-11	RES-CHIP	100	5%	1/10W
R4105	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4106	1-216-041-00	RES-CHIP	470	5%	1/10W
R4107	1-216-029-00	RES-CHIP	150	5%	1/10W
R4108	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4109	1-216-031-00	RES-CHIP	180	5%	1/10W
R4111	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4112	1-216-033-00	RES-CHIP	220	5%	1/10W
R4114	1-216-025-11	RES-CHIP	100	5%	1/10W
R4115	1-216-025-11	RES-CHIP	100	5%	1/10W
R4120	1-216-083-00	RES-CHIP	27K	5%	1/10W
R4124	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R4126	1-208-291-11	RES-CHIP	4.7M	5%	1/10W
R4127	1-208-291-11	RES-CHIP	4.7M	5%	1/10W
R4130	1-208-291-11	RES-CHIP	4.7M	5%	1/10W
R4131	1-216-025-11	RES-CHIP	100	5%	1/10W
R4132	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4133	1-216-017-91	RES-CHIP	47	5%	1/10W
R4135	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R4136	1-216-025-11	RES-CHIP	100	5%	1/10W
R4137	1-216-025-11	RES-CHIP	100	5%	1/10W
R4139	1-216-025-11	RES-CHIP	100	5%	1/10W
R4140	1-216-025-11	RES-CHIP	100	5%	1/10W
R4141	1-216-025-11	RES-CHIP	100	5%	1/10W
R4142	1-216-295-91	SHORT CHIP	0 (EXCEPT KV-AR29M68)		
R4143	1-216-041-00	RES-CHIP	470	5%	1/10W
R4144	1-216-041-00	RES-CHIP	470	5%	1/10W
R4145	1-216-017-91	RES-CHIP	47	5%	1/10W
R4146	1-216-041-00	RES-CHIP	470	5%	1/10W
R4147	1-216-041-00	RES-CHIP	470	5%	1/10W
R4148	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4149	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4150	1-216-025-11	RES-CHIP	100	5%	1/10W
R4151	1-216-025-11	RES-CHIP	100	5%	1/10W
R4152	1-216-025-11	RES-CHIP	100	5%	1/10W
R4153	1-216-089-91	RES-CHIP	47K	5%	1/10W
R4154	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4155	1-216-089-91	RES-CHIP	47K	5%	1/10W
R4156	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4157	1-216-089-91	RES-CHIP	47K	5%	1/10W
R4158	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4159	1-216-295-91	SHORT CHIP	0		
R4160	1-216-295-91	SHORT CHIP	0		
R4161	1-216-295-91	SHORT CHIP	0		
R4163	1-216-025-11	RES-CHIP	100	5%	1/10W
R4164	1-216-025-11	RES-CHIP	100	5%	1/10W
R4165	1-216-025-11	RES-CHIP	100	5%	1/10W
R4172	1-216-041-00	RES-CHIP	470	5%	1/10W
R4173	1-216-041-00	RES-CHIP	470	5%	1/10W
R4174	1-216-041-00	RES-CHIP	470	5%	1/10W
R4175	1-216-041-00	RES-CHIP	470	5%	1/10W
R4176	1-216-041-00	RES-CHIP	470	5%	1/10W
R4177	1-216-041-00	RES-CHIP	470	5%	1/10W
R4178	1-216-041-00	RES-CHIP	470	5%	1/10W
R4179	1-216-041-00	RES-CHIP	470	5%	1/10W
R4180	1-216-041-00	RES-CHIP	470	5%	1/10W
R4181	1-216-025-11	RES-CHIP	100	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R4182	1-216-295-91	SHORT CHIP	0		
R4183	1-216-295-91	SHORT CHIP	0		
R4184	1-216-295-91	SHORT CHIP	0		
R4185	1-216-295-91	SHORT CHIP	0		
R4186	1-216-295-91	SHORT CHIP	0		
R4187	1-216-295-91	SHORT CHIP	0		
R4190	1-216-025-11	RES-CHIP	100	5%	1/10W
R4191	1-216-025-11	RES-CHIP	100	5%	1/10W
R4192	1-216-025-11	RES-CHIP	100	5%	1/10W
R4195	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4196	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4197	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4198	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4199	1-216-041-00	RES-CHIP	470	5%	1/10W
R4200	1-216-041-00	RES-CHIP	470	5%	1/10W
R4201	1-216-295-91	SHORT CHIP	0		
R4202	1-216-295-91	SHORT CHIP	0		
R4203	1-216-295-91	SHORT CHIP	0		
R4210	1-216-025-11	RES-CHIP	100	5%	1/10W
R4211	1-216-041-00	RES-CHIP	470	5%	1/10W
R4212	1-216-025-11	RES-CHIP	100	5%	1/10W
R4213	1-216-025-11	RES-CHIP	100	5%	1/10W
R4214	1-216-295-91	SHORT CHIP	0		
R4216	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R4217	1-216-041-00	RES-CHIP	470	5%	1/10W
R4218	1-216-041-00	RES-CHIP	470	5%	1/10W
R4219	1-216-295-91	SHORT CHIP	0		
R4220	1-216-295-91	SHORT CHIP	0		
R4223	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R4224	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R4225	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R4226	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R4227	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R4228	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4229	1-216-033-00	RES-CHIP	220	5%	1/10W
R4230	1-216-033-00	RES-CHIP	220	5%	1/10W
R4231	1-216-033-00	RES-CHIP	220	5%	1/10W
R4232	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4233	1-216-295-91	SHORT CHIP	0		
R4234	1-216-295-91	SHORT CHIP	0		
R4235	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4236	1-216-295-91	SHORT CHIP	0		
R4237	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4238	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4240	1-216-615-11	METAL CHIP	33	0.5%	1/10W
R4241	1-208-760-11	METAL CHIP	120	0.5%	1/10W
R4242	1-216-603-11	METAL CHIP	10	0.5%	1/10W
R4243	1-216-041-00	RES-CHIP	470	5%	1/10W
R4244	1-216-615-11	METAL CHIP	33	0.5%	1/10W
R4245	1-208-760-11	METAL CHIP	120	0.5%	1/10W
R4246	1-216-603-11	METAL CHIP	10	0.5%	1/10W
R4247	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4249	1-216-615-11	METAL CHIP	33	0.5%	1/10W
R4250	1-208-760-11	METAL CHIP	120	0.5%	1/10W
R4251	1-216-603-11	METAL CHIP	10	0.5%	1/10W
R4252	1-216-041-00	RES-CHIP	470	5%	1/10W
R4253	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R4254	1-216-615-11	METAL CHIP	33	0.5%	1/10W
R4255	1-208-760-11	METAL CHIP	120	0.5%	1/10W
R4256	1-216-603-11	METAL CHIP	10	0.5%	1/10W
R4257	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4258	1-216-057-00	RES-CHIP	2.2K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R4259	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4261	1-216-025-11	RES-CHIP	100	5%	1/10W
R4273	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4275	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4276	1-216-295-91	SHORT CHIP	0		
R4278	1-216-295-91	SHORT CHIP	0		
R4279	1-216-025-11	RES-CHIP	100	5%	1/10W
R4280	1-216-025-11	RES-CHIP	100	5%	1/10W
R4282	1-216-295-91	SHORT CHIP	0		
R4284	1-216-295-91	SHORT CHIP	0		
R4286	1-216-025-11	RES-CHIP	100	5%	1/10W
R4287	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4288	1-216-025-11	RES-CHIP	100	5%	1/10W
R4290	1-216-295-91	SHORT CHIP	0		
R4291	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4292	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R4293	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R4295	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4296	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4297	1-216-025-11	RES-CHIP	100	5%	1/10W
R4298	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R4299	1-216-025-11	RES-CHIP	100	5%	1/10W
R4300	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R4308	1-216-025-11	RES-CHIP	100	5%	1/10W
R4309	1-216-025-11	RES-CHIP	100	5%	1/10W
R4311	1-208-783-11	METAL CHIP	1.1K	0.5%	1/10W
R4312	1-208-792-11	METAL CHIP	2.7K	0.5%	1/10W
R4313	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R4314	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R4315	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R4317	1-216-017-91	RES-CHIP	47	5%	1/10W
R4318	1-216-017-91	RES-CHIP	47	5%	1/10W
R4319	1-216-017-91	RES-CHIP	47	5%	1/10W
R4320	1-216-017-91	RES-CHIP	47	5%	1/10W
R4321	1-216-017-91	RES-CHIP	47	5%	1/10W
R4322	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4323	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R4329	1-216-295-91	SHORT CHIP	0		
R4330	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4402	1-216-295-91	SHORT CHIP	0		
R4403	1-216-025-11	RES-CHIP	100	5%	1/10W
R4404	1-216-025-11	RES-CHIP	100	5%	1/10W
R4406	1-216-025-11	RES-CHIP	100	5%	1/10W
R4407	1-216-025-11	RES-CHIP	100	5%	1/10W
R4408	1-216-295-91	SHORT CHIP	0		
R4415	1-216-025-11	RES-CHIP	100	5%	1/10W
R4418	1-208-783-11	METAL CHIP	1.1K	0.5%	1/10W
R4419	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R4420	1-208-792-11	METAL CHIP	2.7K	0.5%	1/10W
R4421	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R4422	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R4423	1-216-631-11	METAL CHIP	150	0.5%	1/10W
R4424	1-216-025-11	RES-CHIP	100	5%	1/10W
R4425	1-216-025-11	RES-CHIP	100	5%	1/10W
R4426	1-216-025-11	RES-CHIP	100	5%	1/10W
R4427	1-216-025-11	RES-CHIP	100	5%	1/10W
R4434	1-216-025-11	RES-CHIP	100	5%	1/10W
R4436	1-216-025-11	RES-CHIP	100	5%	1/10W
R4438	1-216-025-11	RES-CHIP	100	5%	1/10W
R4440	1-216-295-91	SHORT CHIP	0		
R4441	1-216-025-11	RES-CHIP	100	5%	1/10W

P5

REF NO.	PART NO.	DESCRIPTION			REMARK
R4442	1-216-295-91	SHORT CHIP	0		
R4449	1-216-295-91	SHORT CHIP	0		
R4451	1-216-295-91	SHORT CHIP	0		
R4452	1-216-295-91	SHORT CHIP	0		
R4454	1-216-295-91	SHORT CHIP	0		
R4458	1-216-295-91	SHORT CHIP	0		
R4461	1-216-295-91	SHORT CHIP	0		
R4464	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4465	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R4466	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4467	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4468	1-216-295-91	SHORT CHIP	0		
R4469	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R4470	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R4471	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R4472	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R4473	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R4474	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4475	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4476	1-216-017-91	RES-CHIP	47	5%	1/10W
R4477	1-216-017-91	RES-CHIP	47	5%	1/10W
R4478	1-216-033-00	RES-CHIP	220	5%	1/10W
R4479	1-216-025-11	RES-CHIP	100	5%	1/10W
R4480	1-216-015-00	RES-CHIP	39	5%	1/10W
R4481	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4482	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4483	1-216-025-11	RES-CHIP	100	5%	1/10W
R4484	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R4485	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R4487	1-216-089-91	RES-CHIP	47K	5%	1/10W
R4489	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4490	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4491	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4492	1-216-025-11	RES-CHIP	100	5%	1/10W
R4494	1-216-041-00	RES-CHIP	470	5%	1/10W
R4496	1-216-017-91	RES-CHIP	47	5%	1/10W
R4512	1-216-085-91	RES-CHIP	33K	5%	1/10W
R4513	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4514	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R4515	1-216-617-11	METAL CHIP	39	0.5%	1/10W
R4527	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4528	1-216-295-91	SHORT CHIP	0		
R4559	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4560	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4561	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4562	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4563	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R4564	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R4568	1-216-017-91	RES-CHIP	47	5%	1/10W
R4569	1-216-017-91	RES-CHIP	47	5%	1/10W
R4570	1-216-017-91	RES-CHIP	47	5%	1/10W
R4573	1-216-295-91	SHORT CHIP	0		
R5001	1-216-097-11	RES-CHIP	100K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5002	1-216-097-11	RES-CHIP	100K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5003	1-216-049-11	RES-CHIP	1K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5004	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5005	1-216-025-11	RES-CHIP	100	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			

REF NO.	PART NO.	DESCRIPTION			REMARK
R5006	1-208-768-11	METAL CHIP	240	0.5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5007	1-208-758-11	METAL CHIP	100	0.5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5008	1-216-025-11	RES-CHIP	100	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5009	1-216-033-00	RES-CHIP	220	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5010	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5011	1-216-025-11	RES-CHIP	100	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5012	1-216-041-00	RES-CHIP	470	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5013	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5014	1-216-033-00	RES-CHIP	220	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5015	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5016	1-216-041-00	RES-CHIP	470	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5017	1-216-041-00	RES-CHIP	470	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5018	1-216-041-00	RES-CHIP	470	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5021	1-216-073-91	RES-CHIP	10K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5023	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5024	1-216-033-00	RES-CHIP	220	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5025	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5026	1-216-041-00	RES-CHIP	470	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5027	1-216-041-00	RES-CHIP	470	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5028	1-216-041-00	RES-CHIP	470	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5031	1-216-033-00	RES-CHIP	220	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5032	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5033	1-216-025-11	RES-CHIP	100	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5034	1-216-041-00	RES-CHIP	470	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5035	1-216-073-91	RES-CHIP	10K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5036	1-216-041-00	RES-CHIP	470	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5037	1-216-025-11	RES-CHIP	100	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5038	1-216-045-00	RES-CHIP	680	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5039	1-216-049-11	RES-CHIP	1K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5040	1-216-045-00	RES-CHIP	680	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5041	1-216-049-11	RES-CHIP	1K	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			
R5042	1-216-025-11	RES-CHIP	100	5%	1/10W
		(KV-AR29M64(THAILAND)/AR29M68)			

REF NO.	PART NO.	DESCRIPTION			REMARK
		<########>			
RB4201	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB4202	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB4203	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB4204	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB4301	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB4302	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB4303	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
RB4304	1-239-409-11	NETWORK RESISTOR (CHIP) 47			
		<CRYSTAL>			
X4101	1-781-946-21	VIBRATOR, CRYSTAL (EXCEPT KV-AR29M68)			
X4102	1-781-612-11	VIBRATOR, CRYSTAL			
**********					
	* A-1347-164-A	V1 BOARD COMPLETE (KV-AR29M66) **********			
		<CAPACITOR>			
C801	1-126-947-11	ELECT	47UF	20.00%	16V
C805	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C806	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C814	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C815	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C816	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C817	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C818	1-163-239-11	CERAMIC CHIP	33PF	5.00%	50V
C820	1-163-239-11	CERAMIC CHIP	33PF	5.00%	50V
C821	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C822	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C823	1-126-933-11	ELECT	100UF	20.00%	16V
C826	1-126-963-11	ELECT	4.7UF	20.00%	50V
C829	1-163-247-91	CERAMIC CHIP	68PF	5.00%	50V
C830	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C831	1-126-933-11	ELECT	100UF	20.00%	16V
C832	1-126-964-11	ELECT	10UF	20.00%	50V
C835	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C837	1-126-933-11	ELECT	100UF	20.00%	16V
		<CONNECTOR>			
CN801	* 1-774-812-11	CONNECTOR, BOARD TO BOARD 7P			
CN803	* 1-774-812-11	CONNECTOR, BOARD TO BOARD 7P			
		<DIODE>			
D802	8-719-941-09	DAP202U			
D803	8-719-105-46	RD3.3M-B2			
D804	8-719-105-91	RD5.6M-B2			
		<FERRITE BEAD>			
FB801	1-410-397-21	FERRITE	1.1UH		
FB802	1-410-397-21	FERRITE	1.1UH		
FB803	1-410-397-21	FERRITE	1.1UH		
FB804	1-414-223-11	INDUCTOR	470UH		
FB805	1-410-397-21	FERRITE	1.1UH		

REF NO.	PART NO.	DESCRIPTION			REMARK
		<IC>			
IC801	8-759-476-87	SAA5261			
		<CHIP CONDUCTOR>			
JR800	1-216-295-91	SHORT CHIP	0		
JR801	1-216-295-91	SHORT CHIP	0		
JR802	1-216-295-91	SHORT CHIP	0		
JR804	1-216-295-91	SHORT CHIP	0		
JR805	1-216-295-91	SHORT CHIP	0		
		<TRANSISTOR>			
Q801	8-729-120-28	2SC1623-L5L6			
Q803	8-729-120-28	2SC1623-L5L6			
Q805	8-729-120-28	2SC1623-L5L6			
Q806	8-729-120-28	2SC1623-L5L6			
Q807	8-729-120-28	2SC1623-L5L6			
Q808	8-729-120-28	2SC1623-L5L6			
Q810	8-729-120-28	2SC1623-L5L6			
Q811	8-729-019-01	2SD2394-EF			
Q817	8-729-421-22	UN2211			
		<RESISTOR>			
R800	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R801	1-216-295-91	SHORT CHIP	0		
R802	1-216-025-11	RES-CHIP	100	5%	1/10W
R803	1-216-295-91	SHORT CHIP	0		
R804	1-216-295-91	SHORT CHIP	0		
R805	1-216-295-91	SHORT CHIP	0		
R807	1-216-295-91	SHORT CHIP	0		
R813	1-216-295-91	SHORT CHIP	0		
R820	1-216-073-91	RES-CHIP	10K	5%	1/10W
R821	1-216-083-00	RES-CHIP	27K	5%	1/10W
R822	1-216-025-11	RES-CHIP	100	5%	1/10W
R824	1-216-295-91	SHORT CHIP	0		
R825	1-216-295-91	SHORT CHIP	0		
R827	1-216-295-91	SHORT CHIP	0		
R828	1-216-025-11	RES-CHIP	100	5%	1/10W
R829	1-216-025-11	RES-CHIP	100	5%	1/10W
R830	1-216-295-91	SHORT CHIP	0		
R831	1-216-295-91	SHORT CHIP	0		
R832	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R835	1-216-295-91	SHORT CHIP	0		
R839	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R841	1-216-025-11	RES-CHIP	100	5%	1/10W
R842	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R843	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R844	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R845	1-216-049-11	RES-CHIP	1K	5%	1/10W
R846	1-216-049-11	RES-CHIP	1K	5%	1/10W
R847	1-216-049-11	RES-CHIP	1K	5%	1/10W
R848	1-216-049-11	RES-CHIP	1K	5%	1/10W
R849	1-216-049-11	RES-CHIP	1K	5%	1/10W
R850	1-216-105-91	RES-CHIP	220K	5%	1/10W
R851	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R853	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R857	1-216-077-91	RES-CHIP	15K	5%	1/10W
R861	1-216-049-11	RES-CHIP	1K	5%	1/10W
R862	1-260-095-11	CARBON	470	5%	1/2W
R863	1-216-049-11	RES-CHIP	1K	5%	1/10W

V1 **VM1**

REF NO.	PART NO.	DESCRIPTION		REMARK	
R864	1-216-041-00	RES-CHIP	470	5%	1/10W
R866	1-215-880-00	METAL OXIDE	10	5%	2W
R871	1-216-037-00	RES-CHIP	330	5%	1/10W
R879	1-216-073-91	RES-CHIP	10K	5%	1/10W
R880	1-216-041-00	RES-CHIP	470	5%	1/10W
R882	1-216-049-11	RES-CHIP	1K	5%	1/10W
R884	1-216-025-11	RES-CHIP	100	5%	1/10W
		<CRYSTAL>			
X801	1-578-774-11	VIBRATOR, CRYSTAL			
**********					
	A-1401-926-A	VM1 BOARD MOUNTED (KV-AR29M60)			
	A-1401-327-A	VM1 BOARD MOUNTED (KV-AR29M64(THAILAND)/M68)			
	A-1401-682-A	VM1 BOARD MOUNTED (KV-AR29M64(INDIA)/M94)			
	A-1401-675-A	VM1 BOARD MOUNTED (KV-AR29M66)			
	A-1401-877-A	VM1 BOARD MOUNTED (KV-AR29N90)			
		**********			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C5900	1-102-115-00	CERAMIC	560PF	10.00%	50V
C5902	1-104-661-91	ELECT	330UF	20.00%	16V
C5903	1-161-830-00	CERAMIC	0.0047UF		500V
C5905	1-126-935-11	ELECT	470UF	20.00%	10V
C5906	1-130-491-00	MYLAR	0.047UF	5.00%	50V
C5907	1-107-638-11	ELECT	33UF	20.00%	160V
C5908	1-106-383-00	MYLAR	0.047UF	10.00%	200V
C5909	1-126-933-11	ELECT	100UF	20.00%	16V
C5910	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5911	1-107-949-11	ELECT	2.2UF	20.00%	160V
C5912	1-104-999-11	MYLAR	0.1UF	10.00%	200V
C5913	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5914	1-126-933-11	ELECT	100UF	20.00%	16V
C5916	1-130-491-00	MYLAR	0.047UF	5.00%	50V
C5917	1-126-935-11	ELECT	470UF	20.00%	10V
C5918	1-102-244-00	CERAMIC	220PF	10.00%	500V
C5919	1-136-165-00	FILM	0.1UF	5.00%	50V
		<CONNECTOR>			
CN2801 *	1-564-506-11	PLUG, CONNECTOR 3P			
CN5901 *	1-564-510-11	PLUG, CONNECTOR 7P			
CN5904 *	1-770-723-11	CONNECTOR, BOARD TO BOARD 8P			
		<DIODE>			
D5901	8-719-911-19	1SS119-25			
D5902	8-719-110-86	RD39ES-B			
D5903	8-719-911-19	1SS119-25			
D5904	8-719-110-86	RD39ES-B			
D5905	8-719-911-19	1SS119-25			
D5906	1-249-406-11	CARBON	120	5%	1/4W
D5907	1-249-406-11	CARBON	120	5%	1/4W

REF NO.	PART NO.	DESCRIPTION		REMARK	
		<COIL>			
L5901	1-414-187-11	INDUCTOR	47UH		
		<TRANSISTOR>			
Q5901	8-729-230-45	2SC2458-YGR			
Q5902	8-729-809-26	2SA1606-E			
Q5903	8-729-230-45	2SC2458-YGR			
Q5904	8-729-119-76	2SA1175-HFE			
Q5905	8-729-230-45	2SC2458-YGR			
Q5906	8-729-809-29	2SC4159-E			
Q5907	8-729-230-45	2SC2458-YGR			
		<RESISTOR>			
R5901	1-249-401-11	CARBON	47	5%	1/4W
R5902	1-249-414-11	CARBON	560	5%	1/4W
R5903	1-247-734-11	CARBON	39	5%	1/2W
R5904	1-249-411-11	CARBON	330	5%	1/4W
R5905	1-249-417-11	CARBON	1K	5%	1/4W
R5906	1-249-417-11	CARBON	1K	5%	1/4W
R5907	1-249-417-11	CARBON	1K	5%	1/4W
R5908	1-249-383-11	CARBON	1.5	5%	1/4W
R5909	1-249-409-11	CARBON	220	5%	1/4W
R5910	1-249-403-11	CARBON	68	5%	1/4W
R5911	1-249-439-11	CARBON	68K	5%	1/4W
R5912	1-249-437-11	CARBON	47K	5%	1/4W
R5914	1-249-403-11	CARBON	68	5%	1/4W
R5915	1-249-429-11	CARBON	10K	5%	1/4W
R5916	1-249-419-11	CARBON	1.5K	5%	1/4W
R5917	1-249-416-11	CARBON	820	5%	1/4W
R5918	1-249-429-11	CARBON	10K	5%	1/4W
R5919	1-249-417-11	CARBON	1K	5%	1/4W
R5920	1-249-439-11	CARBON	68K	5%	1/4W
R5921	1-216-476-11	METAL OXIDE	180	5%	3W
R5922	1-249-414-11	CARBON	560	5%	1/4W
R5923	1-249-383-11	CARBON	1.5	5%	1/4W
R5925	1-249-400-11	CARBON	39	5%	1/4W
R5927	1-249-416-11	CARBON	820	5%	1/4W
R5929	1-215-880-00	METAL OXIDE	10	5%	2W

****

ACCESSORIES AND PACKING MATERIALS
****

	3-701-910-00	SCREW, SPECIAL (DIA. 3.8X20)
*	4-090-269-01	CUSHION, UPPER (KV-AR29M60/M68/M64(THAILAND))
*	4-090-270-01	CUSHION, LOWER (KV-AR29M60/M68/M64(THAILAND))
*	4-089-237-01	CUSHION (UPPER) (KV-AR29M66/N90)
*	4-089-238-01	CUSHION (LOWER) (KV-AR29M66/N90)
*	4-091-077-01	CUSHION, UPPER (KV-AR29M64/M94(INDIA))
*	4-091-078-01	CUSHION, LOWER (KV-AR29M64/M94(INDIA))
*	4-090-730-01	INDIVIDUAL CARTON (KV-AR29M60)
*	4-090-634-01	INDIVIDUAL CARTON (KV-AR29M66)
*	4-090-271-01	INDIVIDUAL CARTON (KV-AR29M68/M64(THAILAND))

REF NO.	PART NO.	DESCRIPTION	REMARK
	* 4-091-079-01	INDIVIDUAL CARTON (KV-AR29M64/M94(INDIA))	
	* 4-090-835-01	INDIVIDUAL CARTON (KV-AR29N90)	
	4-089-671-11	MANUAL, INSTRUCTION (KV-AR29M60)	
	4-089-575-11	MANUAL, INSTRUCTION (KV-AR29M66)	
	4-089-670-11	MANUAL, INSTRUCTION (KV-AR29M68/M64(THAILAND))	
	4-090-225-11	MANUAL, INSTRUCTION (KV-AR29M64/M94(INDIA))	
	4-090-833-11	MANUAL, INSTRUCTION (KV-AR29N90)	
	* 4-029-168-01	BAG, PROTECTION (KV-AR29M66)	
	* 4-065-594-01	BAG, PROTECTION (KV-AR29M64/M94(INDIA))	
	* 4-029-168-01	BAG, PROTECTION (KV-AR29N90)	
	4-392-003-21	BAND, HOLDING (KV-AR29M60/M68/M64(THAILAND))	
	4-392-003-11	BAND, HOLD (KV-AR29M66/N90)	
	4-392-003-31	BAND, HOLD (KV-AR29M64/M94(INDIA))	
	* 4-057-329-01	TRAY (KV-AR29M60/M68/M64(THAILAND))	
	* 4-054-319-01	TRAY (KV-AR29M66/N90)	
	4-065-210-01	JOINT	
	4-059-705-01	CLIP (KV-AR29M60/68/M64(THAILAND))	
	4-392-004-11	CLIP (KV-AR29M66/N90)	
	4-392-004-21	CLIP (KV-AR29M64/M94(INDIA))	

****

REF NO.	PART NO.	DESCRIPTION	REMARK
		REMOTE COMMANDER **********	
	1-477-314-11	REMOTE COMMANDER (RM-993) (KV-AR29M64/M94(INDIA)/M66/AR29M64)	
	1-477-407-11	REMOTE COMMANDER (RM-995) (KV-AR29M60)	
	4-079-833-01	BATTERY COVER REMOTE COMMANDER (RM-993/RM995/996)	
	1-477-490-11	REMOTE COMMANDER (RM-996) (KV-AR29N90)	

Sony Corporation
Sony Technology Malaysia Sdn. Bhd.
Visual Products

9-872-328-01

English
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SONY

4-089-671-**11** (1)

Trinitron Color TV
เครื่องรับโทรทัศน์สี Trinitron

Operating Instructions **GB**

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

คู่มือการใช้งาน **ไทย**

- ก่อนเริ่มการใช้งานกรุณาอ่านคู่มือนี้โดยละเอียดทั้งหมดและเก็บรักษาคู่มือไว้สำหรับอ้างอิงในโอกาสต่อ ๆไป

FD Trinitron
WEGA

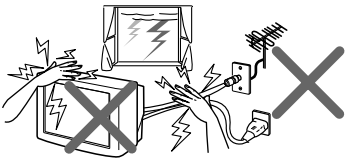
KV-AR34
KV-AR29
KV-AR25

© 2002 Sony Corporation

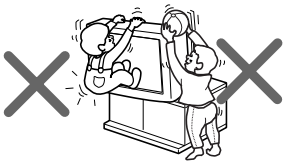
M60

WARNING

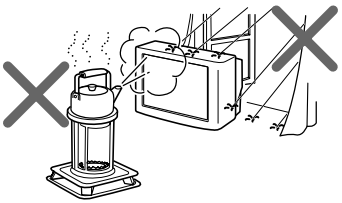
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 220-240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.



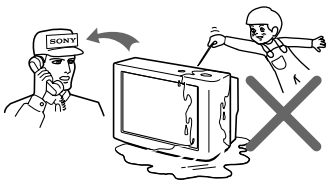
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



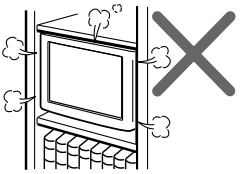
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



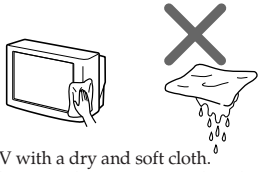
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



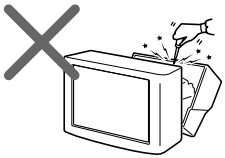
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



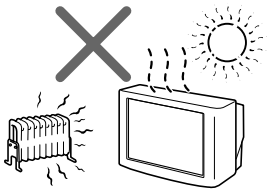
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



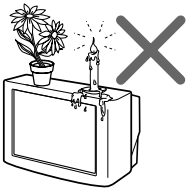
Clean the TV with a dry and soft cloth. Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e. g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



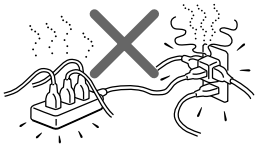
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



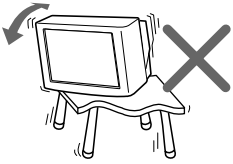
Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



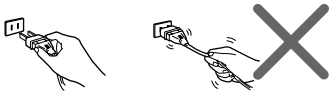
Do not place any objects on the TV.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



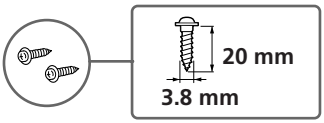
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

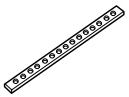
■ Securing the TV

To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.

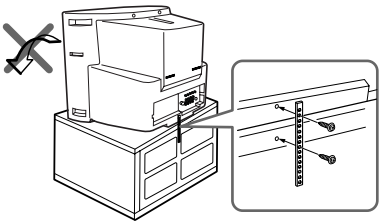


screws

clamps

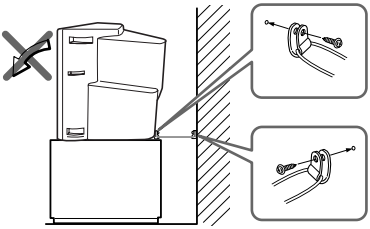


band



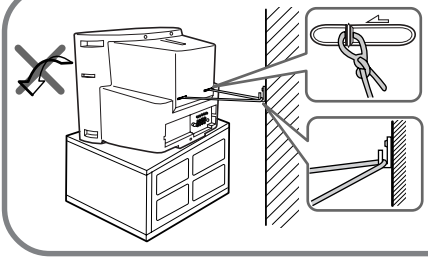
Screw the band to the TV stand and to the provided hole at the rear of your TV.

or



(1) Put a cord or chain through the clamps.
(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.
(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

Table of Contents

Installation

Getting Started **6**
Setting up your TV ("INITIAL SETUP") **7**

Overview of Controls

TV front and rear panels **8**
Remote control **9**

Advanced Operations

Selecting the picture and sound modes **11**
Viewing the picture in wide mode .. **12**
Listening with surround sound **12**
Setting the timers **13**
Enjoying stereo or bilingual programs **14**

Menu Adjustment

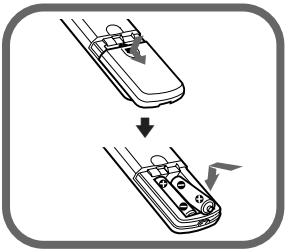
Introducing the menu system **15**
Changing the "PICTURE" setting ... **18**
Changing the "SOUND" setting **20**
Changing the "SETUP" setting **22**
Changing the Channel Preset ("CH PRESET") setting **24**

Additional Information

Connecting optional components ... **27**
Troubleshooting **29**
Specifications ..... **Back cover**

GB

■ Getting Started

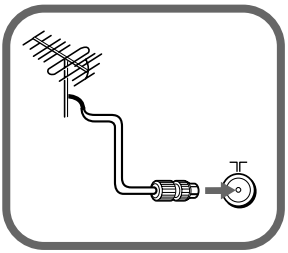


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

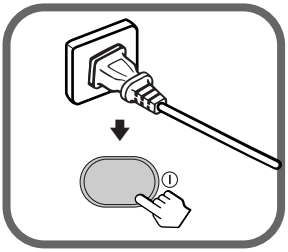


Step 2

Connect the antenna cable (not supplied) to ⅂⊢ (antenna input) at the rear of the TV.

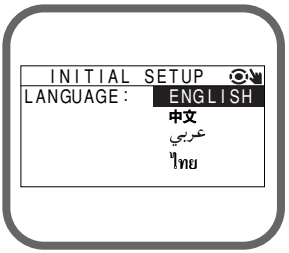
Tip

- You can also connect your TV to other optional components (see page 27).



Step 3

Plug in the power cord, then press ⏻ on the TV to turn it on.

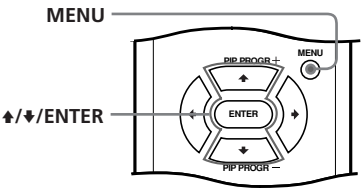


Step 4

Set up the TV by following the instructions of the "INITIAL SETUP"menu (see page 7).

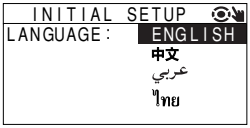
■ Setting up your TV ("INITIAL SETUP")

When you turn on your TV for the first time, the "INITIAL SETUP" menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



1 Press ▲ or ▼ to select the desired menu language (e.g.,"ENGLISH"), then press ENTER.

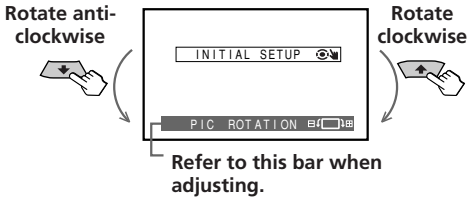
The selected menu language appears.



2 If the "PIC ROTATION" bar is slanted, press ▲ or ▼ to adjust it, then press ENTER.

If no adjustment is necessary, then press ENTER.

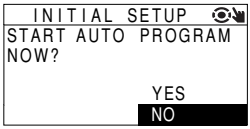
The ⊞ or ⊟ icon on the screen flashes while adjusting.

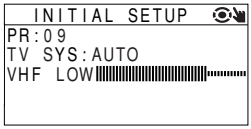


3 Press ▲ or ▼ to select "YES", then press ENTER to preset the channels automatically (see page 24).

The screen will indicate automatic presetting is in progress.

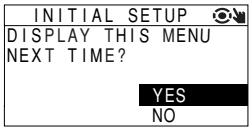
To skip automatic channel presetting, select "NO", then press ENTER.





4 Press ▲ or ▼ to select "NO", then press ENTER. The "INITIAL SETUP" menu will not appear again the next time you turn on the TV by pressing ⏻.

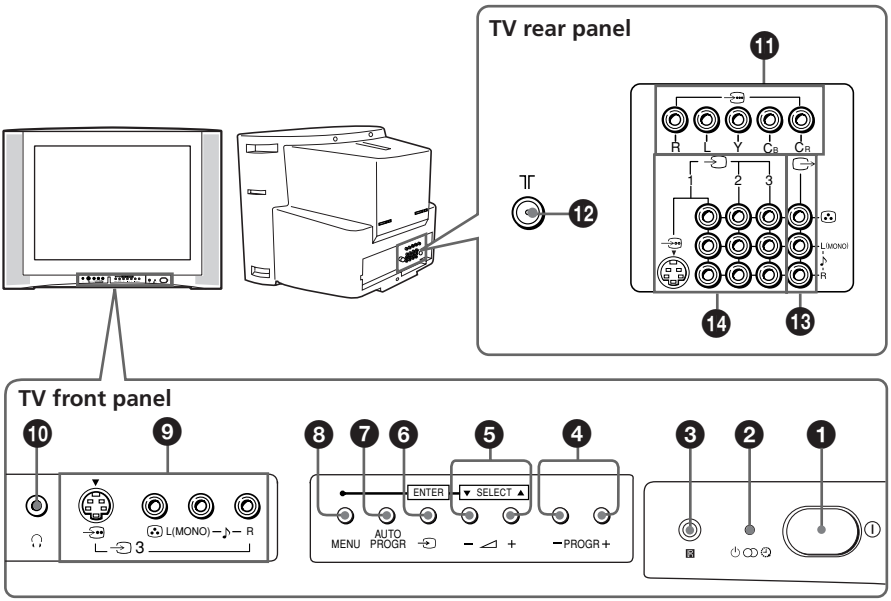
To allow this menu to appear again, select "YES", then press ENTER.



Tips

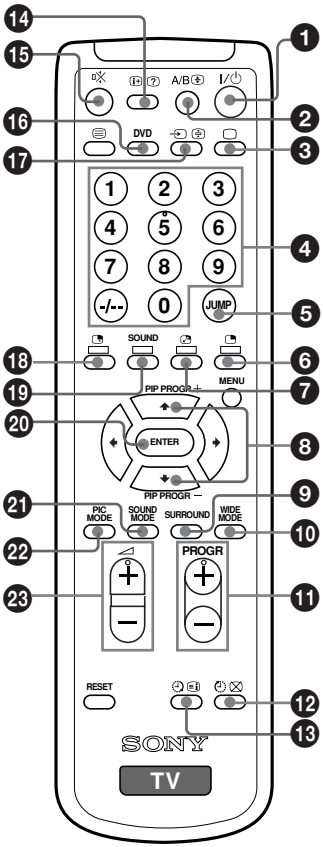
- You can immediately go to the end of the "INITIAL SETUP" menu by pressing MENU.
- You can also set up your TV using the menu system (see page 15).

■ TV front and rear panels



Button/Terminal	Function	Page
❶ ⏻	Turn off or turn on the TV.	6
❷ ⏻	Standby indicator.	–
❷ 🕘	Wake Up indicator.	13
❷ ◯◯	Stereo/bilingual indicator.	14
❸	Remote control sensor.	–
❹ PROGR +/–	Select program number.	–
❺ +/–	Adjust volume.	–
❻	Select TV or video input.	–
❼ AUTO PROGR	Preset channels automatically.	–
Menu operations		
❺ SELECT ▼/▲	Select and adjust items.	17
❻ ENTER	Confirm selected items.	17
❽ MENU	Display or cancel the menu.	17
❾ 3	Video input terminal 3.	27
❿	Headphone jack.	–
⓫	Component video input terminal.	28
⓬	Antenna input terminal.	27
⓭	Monitor output terminal.	27
⓮ 1, 2, 3	Video input terminal 1, 2, 3.	27

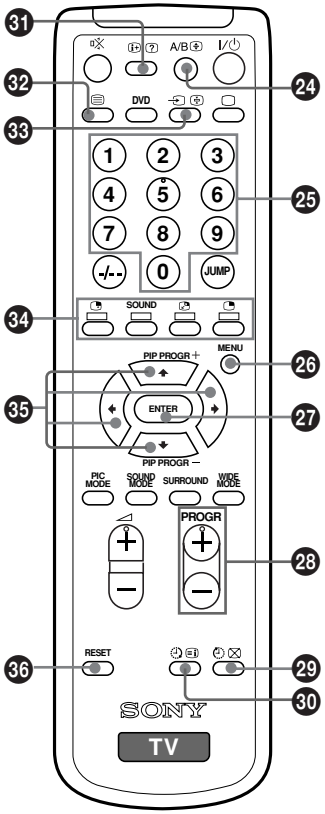
■ Remote control



Button	Function	Page
❶ I/⏻	Turn off temporarily or turn on the TV.	–
❸ ▭	Display the TV input.	–
❹ 0 – 9, -/--	Input numbers.	–
❺ JUMP	Jump to previous program number.	–
❾ SURROUND	Select surround mode.	12
❿ WIDE MODE	Select wide-mode (16:9).	12
⓫ PROGR +/–	Select program number.	–
⓮ ⓘ+	Display on-screen information.	–
⓯ 🔇	Mute the sound.	–
⓰ DVD	Select DVD input.	28
⓱ ⏎	Select TV or video input.	27
㉑ SOUND MODE	Select sound mode.	11
㉒ PIC MODE	Select picture mode.	11
㉓ ◿ +/–	Adjust volume.	–
Timer operations		
⓬ ⏲	Set TV to turn off automatically.	13
⓭ ⏲	Set TV to turn on automatically.	13
PIP operations (yellow label)		
❻ ◳	Not function for your TV.	–
❼ ♪		
❽ PIP PROGR + / PIP PROGR –		
⓲ ◳		
⓳ SOUND		
⓴ ENTER		
Stereo/bilingual operations		
❷ A/B	Select stereo/bilingual mode.	14

continue

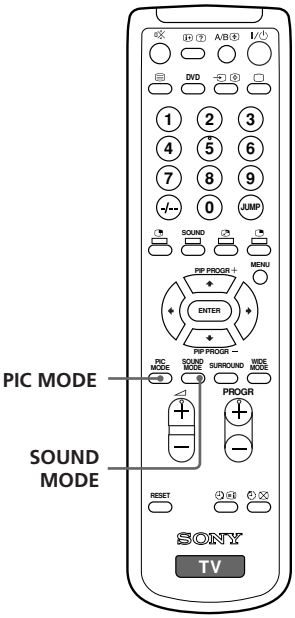
continued



Button	Function	Page
Menu operations		
26 MENU	Display or cancel the menu.	17
27 ENTER	Confirm selected items.	17
35 ↑, ↓, ←, →	Select and adjust items.	17
Teletext operations (green label)		
24 ⇳	Not function for your TV.	–
25 0 – 9		
28 PROGR +/–		
29 ⊠		
30 ⓘ		
31 ?		
32 ☰		
33 ⇳		
34 ▬ (red, green, yellow, blue)		
36 RESET	Set TV to factory setting.	29

Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the “PERSONAL” option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
“DYNAMIC”	view high contrast pictures.
“STANDARD”	view normal pictures.
“SOFT”	view mild pictures.
“PERSONAL”	receive the last adjusted picture setting from the “ADJUST” option in the “PICTURE” menu (see page 19).

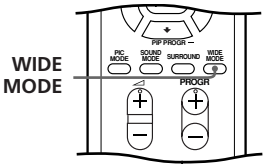
Selecting the sound mode

Press SOUND MODE to select the desired sound mode.

Select	To
“♪ DYNAMIC”	listen to dynamic and clear sound that emphasizes both the low and high tones.
“♪ DRAMA”	listen to sound that emphasizes voice and high tones.
“♪ SOFT”	listen to soft sound.
“♪ PERSONAL”	receive the last adjusted sound setting from the “ADJUST” option in the “SOUND” menu (see page 21).

■ Viewing the picture in wide mode

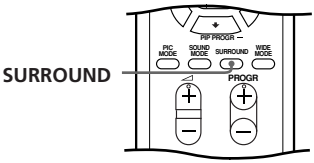
When receiving a wide-mode (16:9) signal, the picture will appear “squeezed” (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.



Select	To
“ON”	view the picture in wide-mode (16:9).
“OFF”	cancel wide-mode (16:9).

■ Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



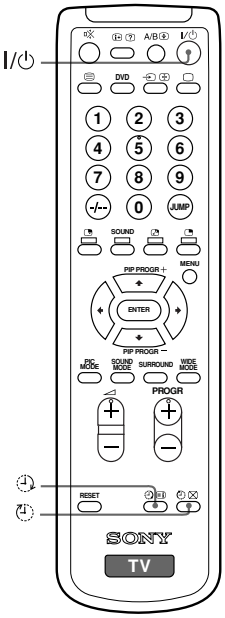
Select	To
“TruSurround”	listen to the surround sound that spreads out to the rear of a room.
“SIMULATED”	listen to monaural sound with a stereo-like effect.
“OFF”	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

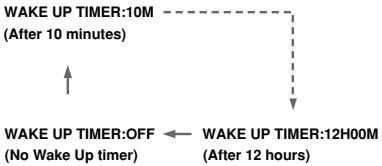
■ Setting the timers

You can set your TV to turn on and off automatically by using the WAKE UP and SLEEP timers respectively.



Setting the Wake Up timer

1 Press 🕘 until the desired period of time appears on the screen.



The Wake Up timer starts immediately after you have set it.

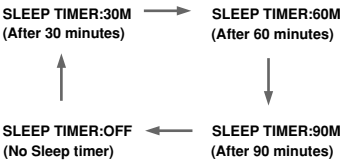
2 Select the program number or video input you want to wake up to.

3 Press I/⏻, or set the Sleep timer if you want the TV to turn off automatically.

The 🕘 indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press 🕘 until the desired period of time appears on the screen.



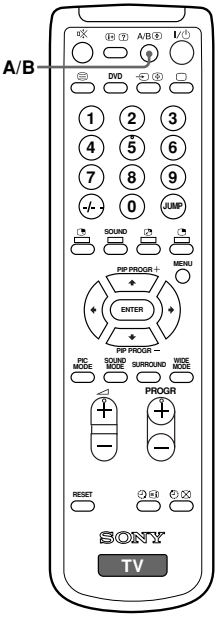
The Sleep timer starts immediately after you have set it.

Notes

- You can also cancel the Wake Up and Sleep timers by pressing ⏻ on the TV to turn off the TV.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

■ Enjoying stereo or bilingual programs

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems by using the A/B button.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound)
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound)

When receiving an A2 program

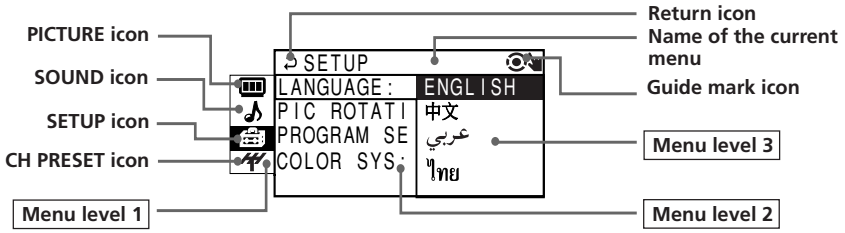
Broadcasting	On-screen display (Selected sound)
A2 stereo	STEREO (Stereo sound) → MONO (Regular sound)
A2 bilingual	MAIN (Main sound) → SUB (Sub sound)

Notes

- If the stereo sound is noisy when receiving a stereo program, select “MONO”. The sound becomes monaural, but the noise is reduced.
- If the sound is distorted when receiving a monaural program through ⅂⌜ (antenna input), press A/B repeatedly until “MONO” appears on the screen. To cancel the monaural sound setting, press A/B again until “AUTO” appears on the screen.

■ Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



Level 1	Level 2	Level 3/Function	Page
"PICTURE"	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "SOFT" → "PERSONAL" → "ADJUST"	18
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"WIDE MODE"	Change the picture size: "ON" → "OFF"	
	"INTELLIGENT PIC"	Optimize picture quality: "ON" → "OFF"	
"SOUND"	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	20
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" →"OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically: "ON" → "OFF"	

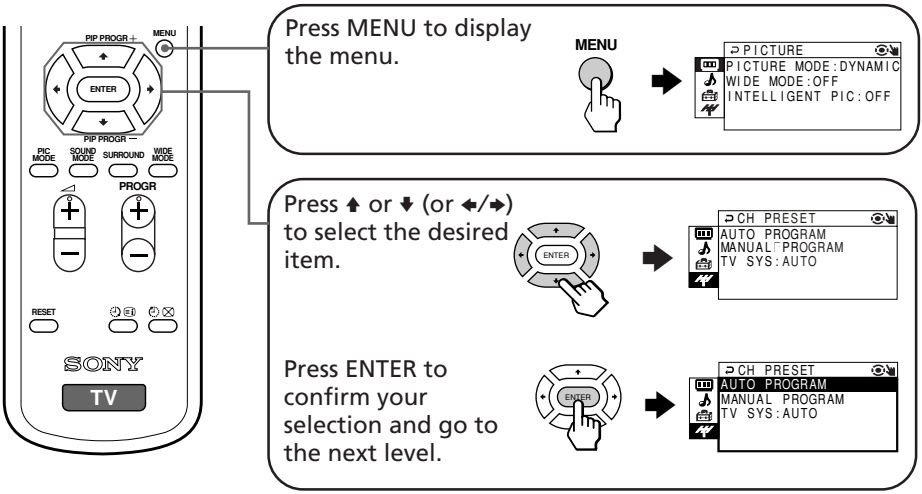
continue

continued

Level 1	Level 2	Level 3/Function	Page
"SETUP"	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文"(Chinese) → "عربي"(Arabic) → "ไทย"(Thai)	22
	"PIC ROTATION"	Adjust the picture position.	
	"PROGRAM SETUP"	Adjust each program number settings.	
	"COLOR SYS"	Select the color system: "AUTO" →" PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"	
"CH PRESET"	"AUTO PROGRAM"	Preset channels automatically.	24
	"MANUAL PROGRAM"	Preset channels manually.	
	"TV SYS"	Select the TV system: "B/G" → "I" → "D/K" → "M"	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

How to use the menu



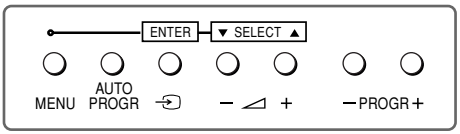
Other menu operations

To	Press
Adjust the setting value	↑, ↓, ← or →.
Move to the next/previous menu level	← or →.
Cancel the menu	MENU.

Tips

- If you want to exit from Menu level 2 to Menu level 1, press ↑ or ↓ until the return icon (⮌) is highlighted, then press ENTER.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, ENTER, and SELECT ▼/▲ buttons on the TV can also be used for the operations above.

Front of TV

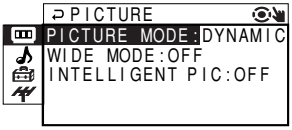


■ Changing the “PICTURE” setting

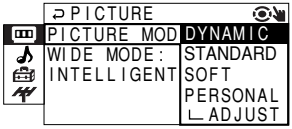
The “PICTURE” menu allows you to adjust the picture settings.

1 Press MENU.

2 Make sure the “PICTURE” icon ( ) is selected, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “PICTURE MODE”), then press ENTER.



Select	To
“PICTURE MODE”	choose either “DYNAMIC”, “STANDARD”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“WIDE MODE”	choose either “ON” or “OFF” (see page 12).
“INTELLIGENT PIC”	optimize picture quality. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted picture settings from the “ADJUST” option (see page 19).

Adjusting the “ADJUST” items under “PICTURE MODE”

1 Press ↑ or ↓ to select the desired item (e.g.,“COLOR”), then press ENTER.

2 Adjust the value according to the following table, then press ENTER.

For	Press ↓ or ← to	Press ↑ or → to
“PICTURE”	decrease picture contrast.	increase picture contrast.
“COLOR”	decrease color intensity.	increase color intensity.
“BRIGHT”	darken the picture.	brighten the picture.
“HUE”	increase red picture tones.	increase green picture tones.
“SHARP”	soften the picture.	sharpen the picture.

3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select “PERSONAL”.

Notes

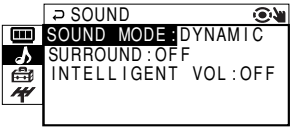
- “HUE” can be adjusted for the NTSC color system only.
- Reducing sharpness (“SHARP”) can also reduce picture noise.

■ Changing the “SOUND” setting

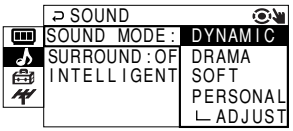
The “SOUND” menu allows you to adjust the sound settings.

1 Press MENU.

2 Press ↑ or ↓ to select the “SOUND” icon (♪), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SOUND MODE”), then press ENTER.

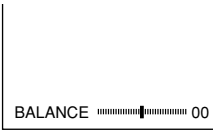


Select	To
“SOUND MODE”	choose either “DYNAMIC”, “DRAMA”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“SURROUND”	choose either “TruSurround”, “SIMULATED” or “OFF” (see page 12).
“INTELLIGENT VOL”	adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted sound settings from the “ADJUST” option (see page 21).

Adjusting the “ADJUST” items under “SOUND MODE”

1 Press ↑ or ↓ to select the desired item (e.g., “BALANCE”), then press ENTER.



2 Adjust the value according to the following table, then press ENTER .

For	Press ↓ or ← to	Press ↑ or → to
“BASS”	decrease the bass.	increase the bass.
“TREBLE”	decrease the treble.	increase the treble.
“BALANCE”	increase the left speaker’s volume.	increase the right speaker’s volume.
“BBE”	select “HIGH” for higher enhancement of sound clarity; select “LOW” for lower enhancement of sound clarity; select “OFF” to cancel BBE sound.	

3 Repeat the above steps to adjust other items.

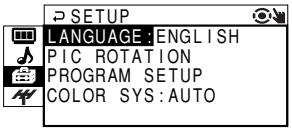
The adjusted settings will be received when you select “PERSONAL”.

■ Changing the “SETUP” setting

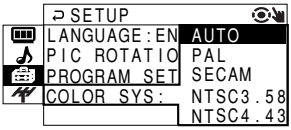
The “SETUP” menu allows you to change the menu language, adjust the picture position, set up your program numbers and select the color system.

1 Press MENU.

2 Press ↑ or ↓ to select the “SETUP” icon (), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “COLOR SYS”), then press ENTER.

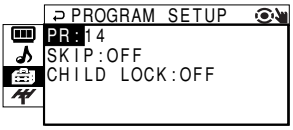


Select	To
“LANGUAGE”	change the menu language. Press ↑ or ↓ to select either “ENGLISH”, “中文” (Chinese), “ عربي ” (Arabic), or “ ไทย ” (Thai) then press ENTER. The selected menu language appears.
“PIC ROTATION”	adjust the picture position when it is not aligned with the TV screen. Press ↑ , → , ↓ or ← to adjust the picture position, then press ENTER.
“PROGRAM SETUP”	adjust each channel settings (see **Adjusting each program number settings (“PROGRAM SETUP”)** on page 23).
“COLOR SYS”	select the color system. Normally, set this to “AUTO”.

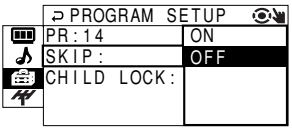
Adjusting each program number settings (“PROGRAM SETUP”)

1 Select “PROGRAM SETUP” from the “SETUP” menu.

2 Select “PR” and press ENTER. Press ↑ or ↓ to select the desired program number you want to adjust, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SKIP”), then press ENTER.



Select	To
“PR”	select the desired program number.
“SKIP”	skip unwanted or unused program number. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“CHILD LOCK”	prevent children from watching this selected program number. Press ↑ or ↓ to select “ON”, then press ENTER. The lock symbol (🔒) appears on the screen. To cancel, select “OFF”, then press ENTER. If you preset a locked program number, that program number will be unlocked automatically.

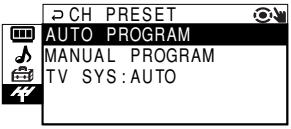
4 To continue adjusting other program numbers, press ↑ or ↓ to select “PR”, then repeat step 2 and 3.

■ Changing the Channel Preset ("CH PRESET") setting

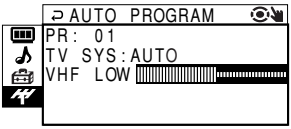
The "CH PRESET" menu allows you to preset channels automatically, manually preset channels and select the TV system.

1 Press MENU.

2 Press ↑ or ↓ to select the "CH PRESET" icon (), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "AUTO PROGRAM"), then press ENTER.

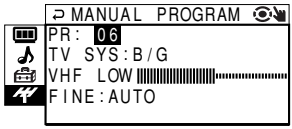


Select	To
"AUTO PROGRAM"	preset channels automatically.
"MANUAL PROGRAM"	manually preset desired channels and channels that cannot be preset automatically (see **Presetting channels manually** on page 25).
"TV SYS"	select the TV system. Press ↑ or ↓ to select either "B/G", "I", "D/K" or "M", then press ENTER.

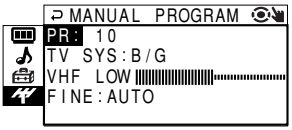
Presetting channels manually

1 After selecting "MANUAL PROGRAM", select the program number to which you want to preset a channel.

(1) Make sure "PR" is selected, then press ENTER.

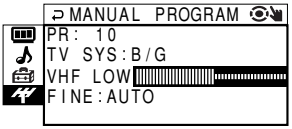


(2) Press ↑ or ↓ until the program number you want to preset (e.g., program number "10") appears on the menu, then press ENTER.

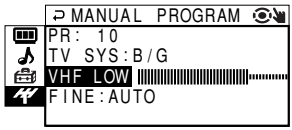


2 Select the desired channel.

(1) Make sure either "VHF LOW", "VHF HIGH", or "UHF" is selected, then press ENTER.

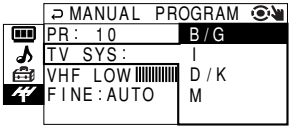


(2) Press ↑ or ↓ until the desired channel's broadcast appears on the TV screen, then press ENTER.

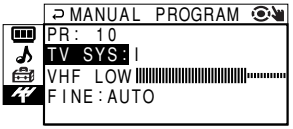


3 If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ↑ or ↓ to select "TV SYS", then press ENTER.



(2) Press ↑ or ↓ until the sound becomes normal, then press ENTER.



Tip

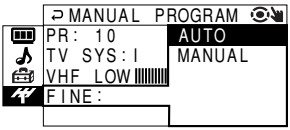
- You can also select the program number with the PROGR +/– or number buttons.

continue

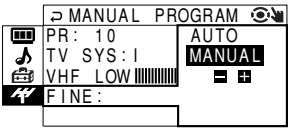
continued

4 If you are not satisfied with the picture and sound quality, you may be able to improve them by using the "FINE" tuning feature.

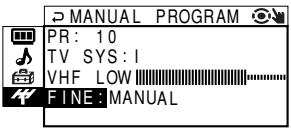
(1) Press ↑ or ↓ to select "FINE", then press ENTER.



(2) Press ↑ or ↓ to select "MANUAL", then press ENTER.



(3) Press ↑, ↓, ← or → until the picture and sound quality are optimal, then press ENTER.
The + or – icon on the menu flashes while tuning.

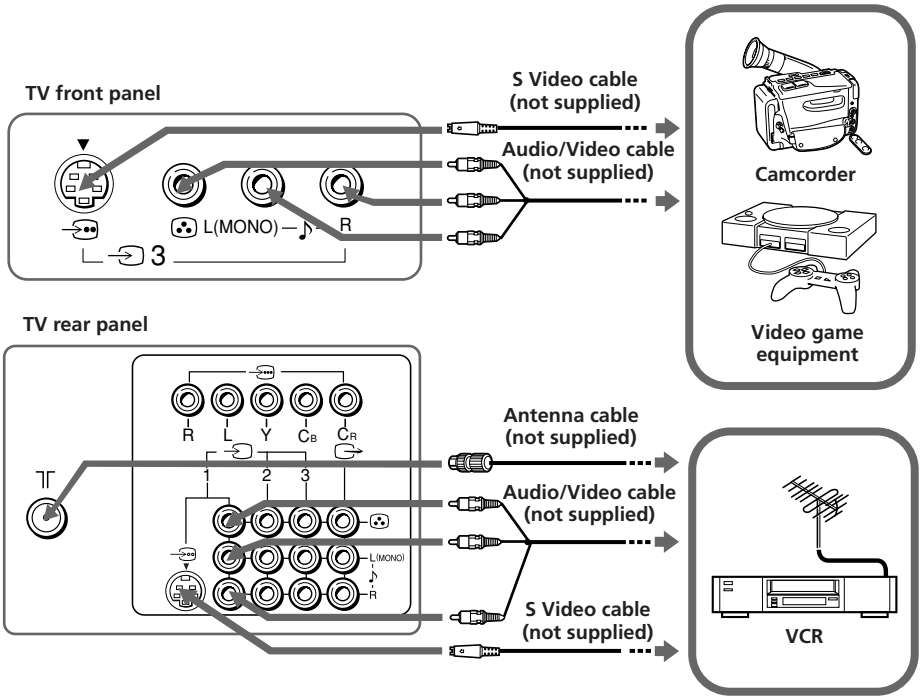


Note

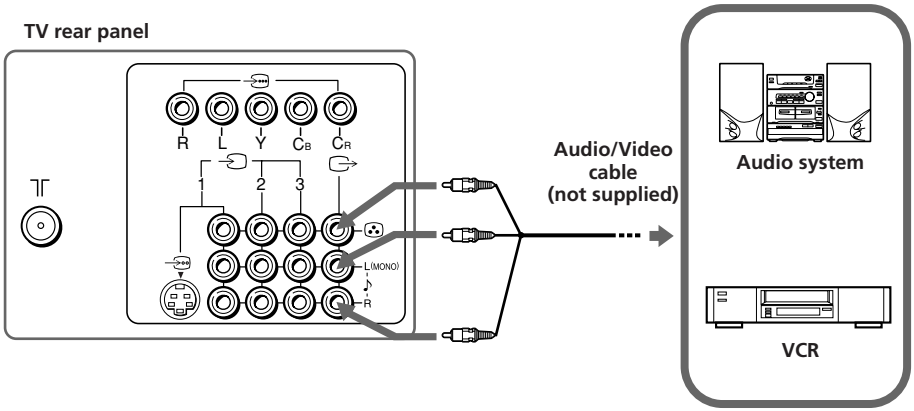
- If you connect a VCR to ⅂⌐ (antenna input), preset the signal output from the VCR to the program number 0 on the TV.

■ Connecting optional components

Connecting to the video input terminal ( )



Connecting to the monitor output terminal ( )



continue

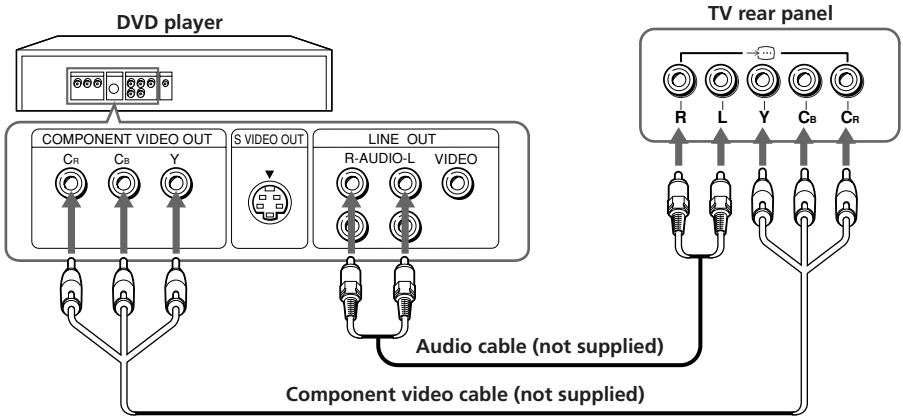
continued

Connecting a DVD player to the component video input terminal ( )

1 Using an audio cable, connect R and L under (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.

2 Using a component video cable, connect Y, C_B, and C_R under (component video input) on your TV to the COMPONENT VIDEO OUT Y, C_B, and C_R output connectors on your DVD player.

3 Press DVD on the remote to watch the (component video input) and "DVD" will appear on your screen.



Notes

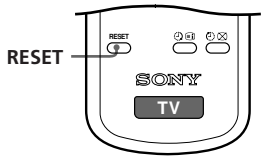
- If your DVD player can ouput interlace and progressive mode signals, select the interlace output when connecting to (component video input) on your TV. Your TV can receive either 525i/60Hz or 625i/50Hz interlace signals.
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
C_B (blue)	C_B, P_B, C_b or B-Y
C_R (red)	C_R, P_R, C_r or R-Y

- When both (S video) and (video) for 1 or 3 are connected at the same time, (S video) is automatically selected. To view (video), disconnect the S video cable.
- If you select "DVD" on your TV screen, the signal from the (monitor output) jacks will not be output properly. This does not indicate a malfunction.

■ Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

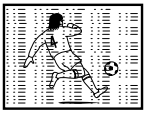


Reset function

Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with "RESET" displayed on your TV screen for about 10 seconds.

Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

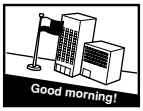
Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture  Noisy sound	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	27
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Channel presetting is inappropriate or incomplete.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM" to preset the channel again.	25
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture Noisy sound	• Broadcast signals are too strong.	• Turn off or disconnect the booster if it is in use.	–
Good picture Noisy sound	• The TV system setting is inappropriate.	• Display the "CH PRESET" menu and select the appropriate TV system ("TV SYS").	25

continue

continued

Symptom	Possible cause	Solutions	Page
No picture **No sound** 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and VCR connections.	27
	• The TV is not turned on.	• Press I/⏻ (power). • Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8
Good picture **No sound** 	• The volume level is too low.	• Press + to increase the volume level.	9
	• The sound is muted.	• Press 🔇 to cancel the muting.	9
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Check the antenna setup. Contact a Sony dealer for advice.	– –
Double images or "ghosts" 	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning ("FINE") function.	– 26
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color 	• The color level setting is too low.	• Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	19
	• The color system setting is inappropriate.	• Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	22
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–

Symptom	Possible cause	Solutions	Page
Picture slant 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	– 22
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.	–
TV cannot receive stereo broadcast sound. **or** **Stereo broadcast sound switches on and off or is distorted.**	• The stereo reception setting is inappropriate.	• Press A/B until "AUTO" appears on the screen.	14
	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	27
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
The ⏻ (standby) indicator on your TV flashes red several times after every three seconds.	• Your TV's self-diagnosis function indicates the possible problems.	• Count the number of times the ⏻ (standby) indicator flashes. Press ⏻ (main power) to turn off your TV. Contact your nearest Sony service center.	–
Cannot play shooting games.	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For detail, see the instruction manual supplied with the video game software.	—	–
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.	—	–
A small "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

■ Specifications

	KV-AR34M60	KV-AR29M60	KV-AR25M60	Note
Power requirements	220 – 240 V AC, 50/60 Hz			
Power consumption (W)	Indicated on the rear of the TV			
Television system	B/G, I, D/K, M			
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43			
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual B/G			
Channel coverage				
B/G	VHF : E2 to E12 UHF : E21 to E69 CATV : S01 to S03, S1 to S41			
I	UHF : B21 to B68 CATV : S01 to S03, S1 to S41			
D/K	VHF : C1 to C12, R1 to R12 UHF : C13 to C57, R21 to R60 CATV : S01 to S03, S1 to S41, Z1 to Z39			
M	VHF : A2 to A13 UHF : A14 to A79 CATV : A-8 to A-2, A to W+4, W+6 to W+84			
┬ (Antenna)	75-ohm external terminal			
Audio output (Speaker)	8W + 8W			
Number of terminal				
(Video)	Input: 4* Output: 1	Phono jacks; 1 Vp-p, 75 ohms		* Three input lines available
♪ (Audio)	Input: 4* Output: 1	Phono jacks; 500 mVrms		* Three input lines available
(S Video)	Input: 2	Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms		
(Component Video)	Input: 1	Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative C_B: 0.7 Vp-p, 75 ohms C_R 0.7 Vp-p, 75 ohms Audio: 500 mVrms		
(Headphone)	Output: 1	Stereo minijack		
Picture tube	34 in.	29 in.	25 in.	
Tube size (cm)	86	72	64	Measured diagonally
Screen size (cm)	80	68	60	Measured diagonally
Dimensions (w/h/d, mm)	896 × 686 × 569	765 × 578 × 502	650 × 517 × 496	
Mass (kg)	79	49	39	

Design and specifications are subject to change without notice.

Sony Thai Co., Ltd.
2126 Kromadit Building, New Petchburi Road,
Bangkapi, Huaykwang, Bangkok 10320

http://www.sony.net/

Sony Corporation

SONY

4-089-670-**11** (1)

Trinitron Color TV
เครื่องรับโทรทัศน์สี Trinitron

Operating Instructions **GB**

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

คู่มือการใช้งาน **ไทย**

- ก่อนเริ่มการใช้งานกรุณาอ่านคู่มือนี้โดยละเอียดทั้งหมดและเก็บรักษาคู่มือไว้สำหรับอ้างอิงในโอกาสต่อ ๆไป

FD Trinitron
WEGA

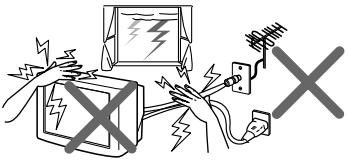
KV-AR34
KV-AR29
KV-AR25

© 2002 Sony Corporation

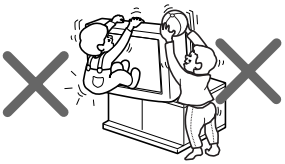
M68
M64

WARNING

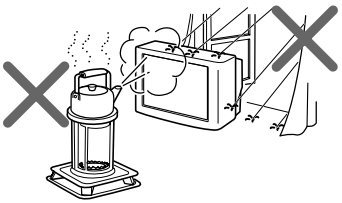
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 220 – 240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.



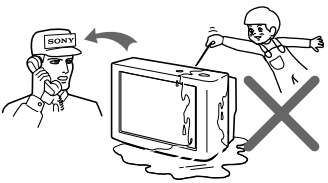
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



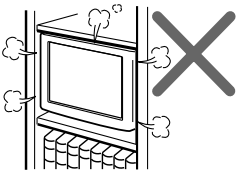
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



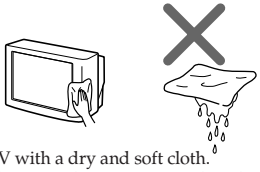
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



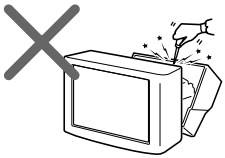
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



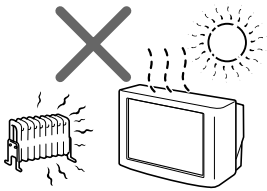
Do not block the ventilation openings of the TV.
Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



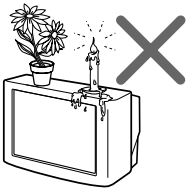
Clean the TV with a dry and soft cloth.
Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



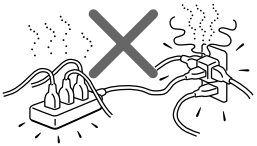
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



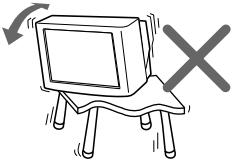
Your TV is recommended for home use only.
Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



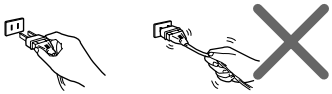
Do not place any objects on the TV.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



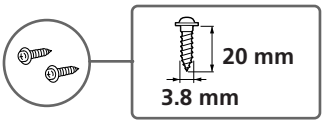
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

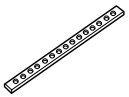
■ Securing the TV

To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.

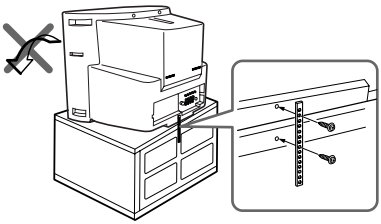


screws

clamps

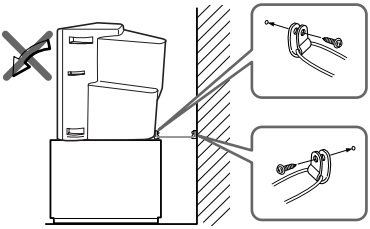


band



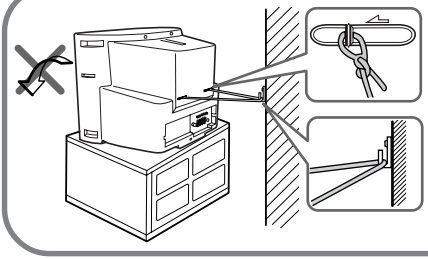
Screw the band to the TV stand and to the provided hole at the rear of your TV.

or



(1) Put a cord or chain through the clamps.
(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.
(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

Table of Contents

Installation

Getting Started **6**
Setting up your TV ("INITIAL SETUP") **7**

Overview of Controls

TV front and rear panels **8**
Remote control **9**

Advanced Operations

Selecting the picture and sound modes **11**
Viewing the picture with DTE **12**
Viewing the picture in wide mode .. **12**
Watching Picture-in-Picture (PIP) (KV-AR34M64/AR29M64 only) **13**
Selecting a TV program using PIP (KV-AR34M64/AR29M64 only) **14**
Listening with surround sound **14**
Setting the timers **15**
Enjoying stereo or bilingual programs **16**

Menu Adjustment

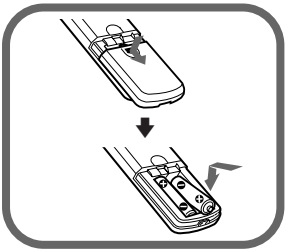
Introducing the menu system **17**
Changing the "PICTURE" setting ... **20**
Changing the "SOUND" setting **22**
Changing the Picture-in-Picture ("PIP") setting (KV-AR34M64/AR29M64 only) **24**
Changing the "SETUP" setting **25**
Changing the Channel Preset ("CH PRESET") setting **27**

Additional Information

Connecting optional components ... **30**
Troubleshooting **32**
Specifications ..... **Back cover**

GB

■ Getting Started

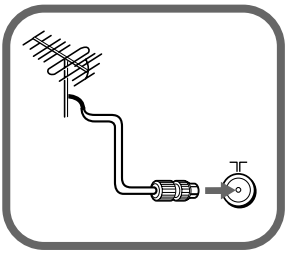


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

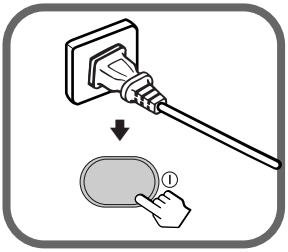


Step 2

Connect the antenna cable (not supplied) to ⊤ (antenna input) at the rear of the TV.

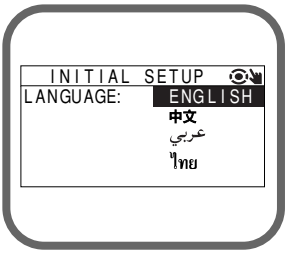
Tip

- You can also connect your TV to other optional components (see page 30).



Step 3

Plug in the power cord, then press ⏻ on the TV to turn it on.

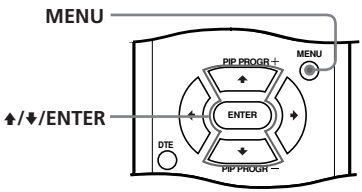


Step 4

Set up the TV by following the instructions of the "INITIAL SETUP"menu (see page 7).

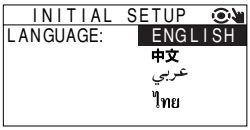
■ Setting up your TV ("INITIAL SETUP")

When you turn on your TV for the first time, the "INITIAL SETUP" menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



1 Press ↑ or ↓ to select the desired menu language (e.g.,"ENGLISH"), then press ENTER.

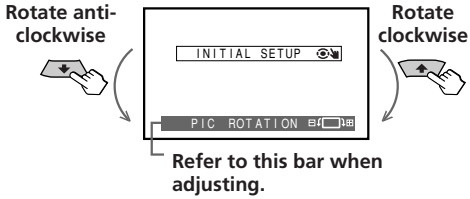
The selected menu language appears.



2 If the "PIC ROTATION" bar is slanted, press ↑ or ↓ to adjust it, then press ENTER.

If no adjustment is necessary, then press ENTER.

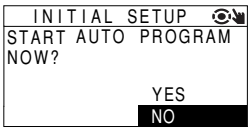
The ⊞ or ⊟ icon on the screen flashes while adjusting.

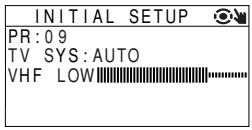


3 Press ↑ or ↓ to select "YES", then press ENTER to preset the channels automatically (see page 27).

The screen will indicate automatic presetting is in progress.

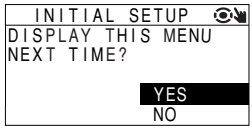
To skip automatic channel presetting, select "NO", then press ENTER.





4 Press ↑ or ↓ to select "NO", then press ENTER. The "INITIAL SETUP" menu will not appear again the next time you turn on the TV by pressing ⏻.

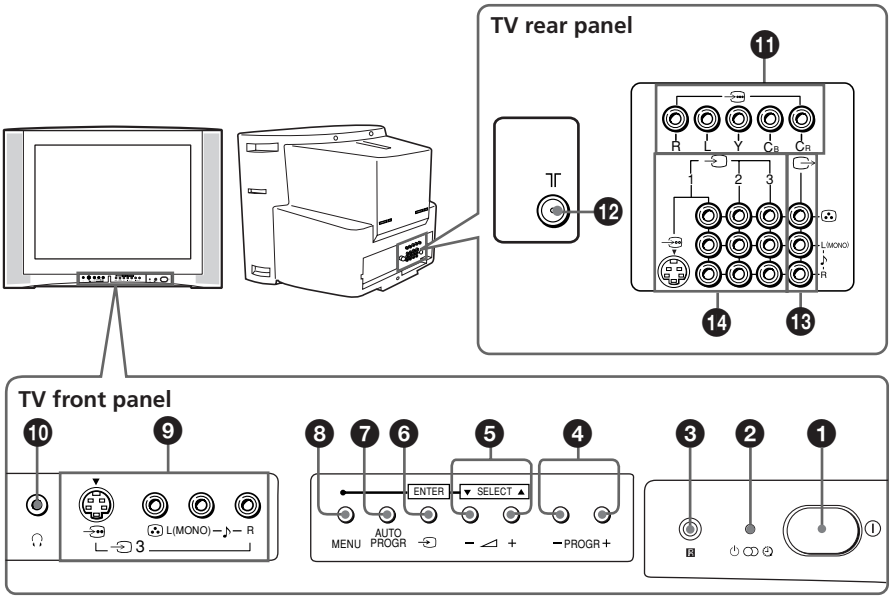
To allow this menu to appear again, select "YES", then press ENTER.



Tips

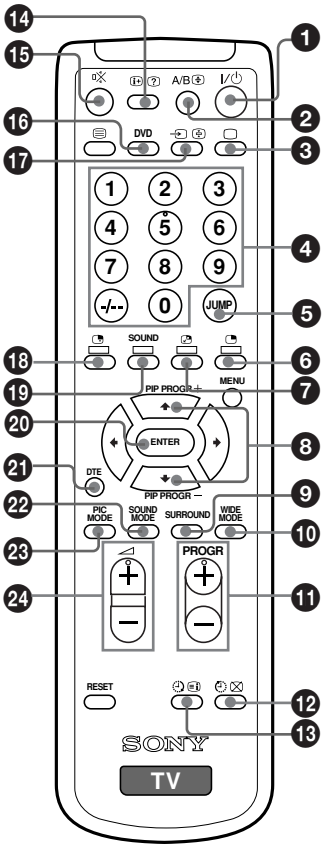
- You can immediately go to the end of the "INITIAL SETUP" menu by pressing MENU.
- You can also set up your TV using the menu system (see page 17).

■ TV front and rear panels



Button/Terminal	Function	Page
❶ ⏻	Turn off or turn on the TV.	6
❷ ⏻	Standby indicator.	–
❷ 🕘	Wake Up indicator.	15
❷	Stereo/bilingual indicator.	16
❸	Remote control sensor.	–
❹ PROGR +/–	Select program number.	–
❺ +/–	Adjust volume.	–
❻	Select TV or video input.	–
❼ AUTO PROGR	Preset channels automatically.	–
Menu operations		
❺ SELECT ▼/▲	Select and adjust items.	19
❻ ENTER	Confirm selected items.	19
❽ MENU	Display or cancel the menu.	19
❾ 3	Video input terminal 3.	30
❿	Headphone jack.	–
⓫	Component video input terminal.	31
⓬	Antenna input terminal.	30
⓭	Monitor output terminal.	30
⓮ 1, 2, 3	Video input terminal 1, 2, 3.	30

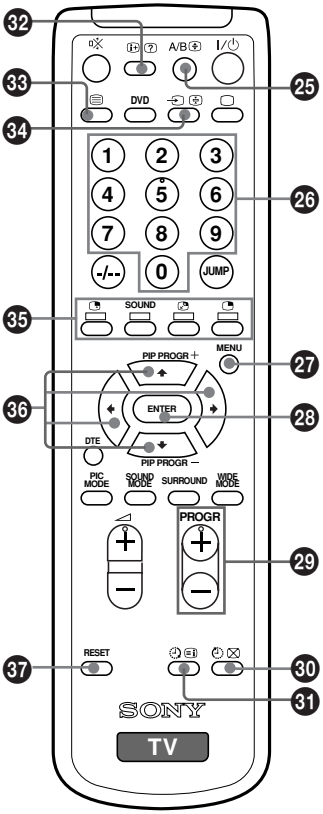
■ Remote control



Button	Function	Page
❶ I/⏻	Turn off temporarily or turn on the TV.	–
❸ ▭	Display the TV input.	–
❹ 0 – 9, -/--	Input numbers.	–
❺ JUMP	Jump to previous program number.	–
❾ SURROUND	Select surround mode.	14
❿ WIDE MODE	Select wide-mode (16:9).	12
⓫ PROGR +/–	Select program number.	–
⓮ i+	Display on-screen information.	–
⓯ 🔇	Mute the sound.	–
⓰ DVD	Select component video input.	31
⓱ ⏎	Select TV or video input.	30
㉑ DTE	Select DTE mode.	12
㉒ SOUND MODE	Select sound mode.	11
㉓ PIC MODE	Select picture mode.	11
㉔ ◿ +/–	Adjust volume.	–
Timer operations		
⓬ ⏲	Set TV to turn off automatically.	15
⓭ ⏲	Set TV to turn on automatically.	15
PIP operations (yellow label) (KV-AR34M64/AR29M64 only)		
❻ ◳	Display a sub screen.	13
❼ ◳	Swap main and sub screens.	13
❽ PIP PROGR +/ PIP PROGR –	Display and change programs in the sub screen.	13,14
⓲ ◳	Select a video input in the sub screen.	13
⓳ SOUND	Swap sound between main and sub screen.	13
⓴ ENTER	Change sub screen to main screen.	14
Stereo/bilingual operations		
❷ A/B	Select stereo/bilingual mode.	16

continue

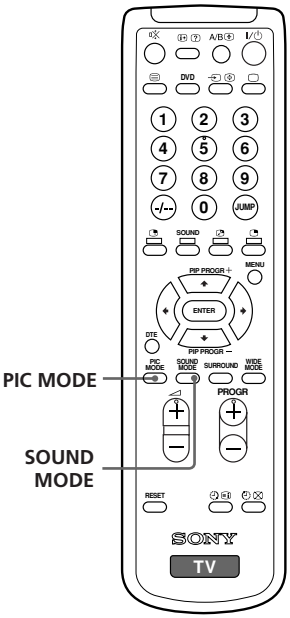
continued



Button	Function	Page
Menu operations		
27 MENU	Display or cancel the menu.	19
28 ENTER	Confirm selected items.	19
36 ↑, ↓, ←, →	Select and adjust items.	19
Teletext operations (green label)		
25	Not function for your TV.	–
26 0 – 9		
29 PROGR +/–		
30		
31		
32		
33		
34		
35 (red, green, yellow, blue)		
37 RESET	Set TV to factory setting.	32

Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the “PERSONAL” option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
“DYNAMIC”	view high contrast pictures.
“STANDARD”	view normal pictures.
“SOFT”	view mild pictures.
“PERSONAL”	receive the last adjusted picture setting from the “ADJUST” option in the “PICTURE” menu (see page 21).

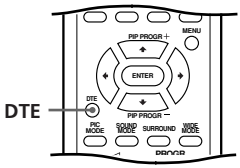
Selecting the sound mode

Press SOUND MODE to select the desired sound mode.

Select	To
“♪ DYNAMIC”	listen to dynamic and clear sound that emphasizes both the low and high tones.
“♪ DRAMA”	listen to sound that emphasizes voice and high tones.
“♪ SOFT”	listen to soft sound.
“♪ PERSONAL”	receive the last adjusted sound setting from the “ADJUST” option in the “SOUND” menu (see page 23).

■ Viewing the picture with DTE

The Digital Texture Enhancer (DTE) feature allows you to enjoy a more natural and vivid picture by optimizing the contrast of each object in the picture.
You can use the DTE button to select “ON” or “OFF”.



Select	To
“ON”	enhance each object’s details and contours with optimum contrast.
“OFF”	cancel DTE.

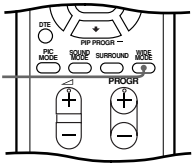
Note

- The DTE mode is not selectable when the “GAME MODE” is turned “ON”.

The DTE logo (DTE Digital Texture Enhancer) and “DTE” are trademarks of Sony Corporation.

■ Viewing the picture in wide mode

When receiving a wide-mode (16:9) signal, the picture will appear “squeezed” (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.

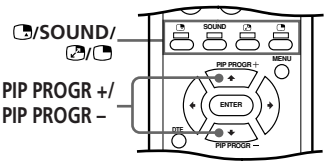


Select	To
“ON”	view the picture in wide-mode (16:9).
“OFF”	cancel wide-mode (16:9).

■ Watching Picture-in-Picture (PIP)

▶ KV-AR34M64/AR29M64 only

With the PIP feature, you can display two different TV programs or video input at the same time by using the ◔ button.



To	Press
Display a sub screen	◔. To cancel the sub screen, press the button again.
Change a program number in the sub screen	PIP PROGR + or PIP PROGR –.
Select a video input in the sub screen	◔.
Swap pictures between the main and sub screens	◔.
Swap sound between the main and sub screens A "♪" symbol will appear next to the program number or video input display to indicate which screen you are hearing.	SOUND.

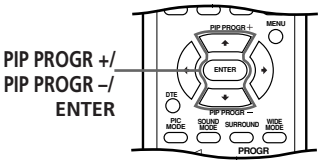
Note

- The picture and sound from the ⇨ (monitor output) terminals will always be from the main screen, even when you select the sub screen sound by pressing SOUND (see page 30).

■ Selecting a TV program using PIP

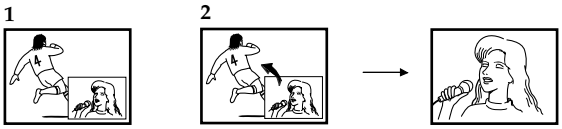
▶ KV-AR34M64/AR29M64 only

You can select your desired TV program directly from the PIP sub screen by using PIP PROGR +/– buttons.



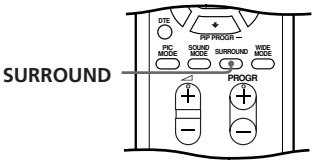
1 Press PIP PROGR +/– until the desired program appears in the sub screen.

2 Press ENTER to change the sub screen program to the main screen.



■ Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



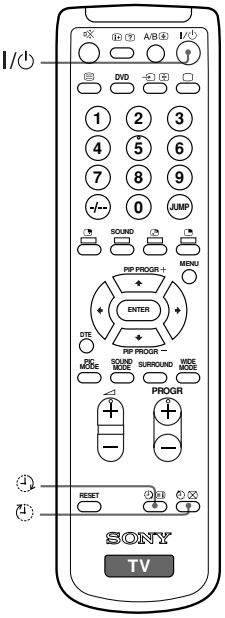
Select	To
"TruSurround"	listen to the surround sound that spreads out to the rear of a room.
"SIMULATED"	listen to monaural sound with a stereo-like effect.
"OFF"	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

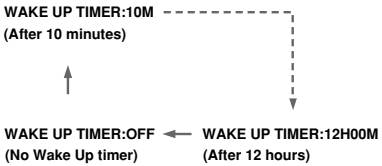
■ Setting the timers

You can set your TV to turn on and off automatically by using the WAKE UP and SLEEP timers respectively.



Setting the Wake Up timer

1 Press 🕘 until the desired period of time appears on the screen.



The Wake Up timer starts immediately after you have set it.

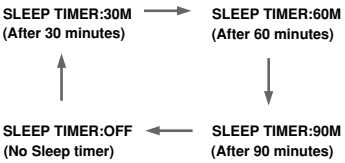
2 Select the program number or video input you want to wake up to.

3 Press I/⏻, or set the Sleep timer if you want the TV to turn off automatically.

The 🕘 indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press 🕘 until the desired period of time appears on the screen.



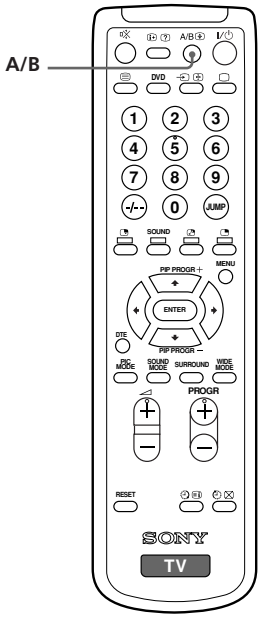
The Sleep timer starts immediately after you have set it.

Notes

- You can also cancel the Wake Up and Sleep timers by pressing ⏻ on the TV to turn off the TV.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

■ Enjoying stereo or bilingual programs

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems by using the A/B button.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound)
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound)

When receiving an A2 program

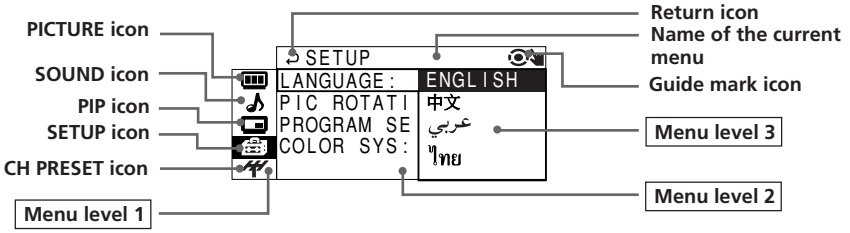
Broadcasting	On-screen display (Selected sound)
A2 stereo	STEREO (Stereo sound) → MONO (Regular sound)
A2 bilingual	MAIN (Main sound) → SUB (Sub sound)

Notes

- If the stereo sound is noisy when receiving a stereo program, select "MONO". The sound becomes monaural, but the noise is reduced.
- If the sound is distorted when receiving a monaural program through ⅂⌜ (antenna input), press A/B repeatedly until "MONO" appears on the screen. To cancel the monaural sound setting, press A/B again until "AUTO" appears on the screen.
- Your TV can only receive monoural sound when you select the PIP sub screen sound by pressing SOUND (see page 13).

■ Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



Level 1	Level 2	Level 3/Function	Page
"PICTURE"	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "SOFT" → "PERSONAL" → "ADJUST"	20
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"DTE"	Optimize the picture contrast: "ON" → "OFF"	
	"WIDE MODE"	Change the picture size: "ON" → "OFF"	
	"GAME MODE"	Adjust the picture settings for video games: "ON" → "OFF"	
"SOUND"	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	22
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" →"OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically: "ON" → "OFF"	
"PIP"	"POSITION"	Change the position of the sub screen.	24
	"PIP"	Display a sub screen within the main picture: "ON" → "OFF"	
(KV-AR34M64/ AR29M64 only)	"SWAP"	Exchange pictures between main screen and sub screen.	

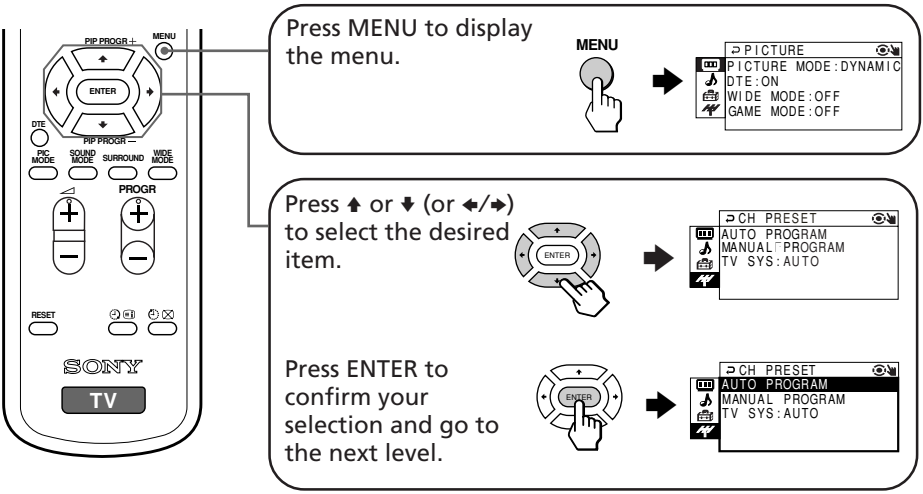
continue

continued

Level 1	Level 2	Level 3/Function	Page
"SETUP"	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文"(Chinese) → "عربي"(Arabic) → "ไทย"(Thai)	25
	"PIC ROTATION"	Adjust the picture position.	
	"PROGRAM SETUP"	Adjust each program number settings.	
	"COLOR SYS"	Select the color system: "AUTO" →" PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"	
"CH PRESET"	"AUTO PROGRAM"	Preset channels automatically.	27
	"MANUAL PROGRAM"	Preset channels manually.	
	"TV SYS"	Select the TV system: "B/G" → "I" → "D/K" → "M"	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

How to use the menu



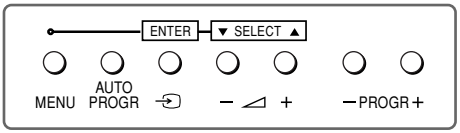
Other menu operations

To	Press
Adjust the setting value	↑, ↓, ← or →.
Move to the next/previous menu level	← or →.
Cancel the menu	MENU.

Tips

- If you want to exit from Menu level 2 to Menu level 1, press ↑ or ↓ until the return icon (⮌) is highlighted, then press ENTER.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, ENTER, and SELECT ▼/▲ buttons on the TV can also be used for the operations above.

Front of TV

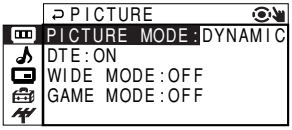


■ Changing the “PICTURE” setting

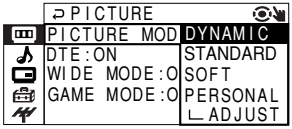
The “PICTURE” menu allows you to adjust the picture settings.

1 Press MENU.

2 Make sure the “PICTURE” icon ( ) is selected, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “PICTURE MODE”), then press ENTER.



Select	To
“PICTURE MODE”	choose either “DYNAMIC”, “STANDARD”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“DTE”	optimize the picture contrast. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“WIDE MODE”	choose either “ON” or “OFF” (see page 12).
“GAME MODE”	adjust the picture setting that is suitable to view video games. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted picture settings from the “ADJUST” option (see page 21).

Notes

- “GAME MODE” is available only when receiving signals through (video input), (S video input), or (component video input).
- The DTE mode is not selectable when “GAME MODE” is turned “ON”.

Adjusting the “ADJUST” items under “PICTURE MODE”

1 Press ↑ or ↓ to select the desired item (e.g.,“COLOR”), then press ENTER.

2 Adjust the value according to the following table, then press ENTER.

For	Press ↓ or ← to	Press ↑ or → to
“PICTURE”	decrease picture contrast.	increase picture contrast.
“COLOR”	decrease color intensity.	increase color intensity.
“BRIGHT”	darken the picture.	brighten the picture.
“HUE”	increase red picture tones.	increase green picture tones.
“SHARP”	soften the picture.	sharpen the picture.

3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select “PERSONAL”.

Notes

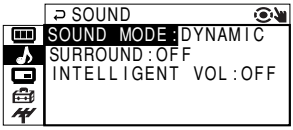
- “HUE” can be adjusted for the NTSC color system only.
- Reducing sharpness (“SHARP”) can also reduce picture noise.

■ Changing the “SOUND” setting

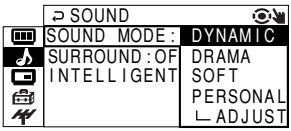
The “SOUND” menu allows you to adjust the sound settings.

1 Press MENU.

2 Press ↑ or ↓ to select the “SOUND” icon (♪), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SOUND MODE”), then press ENTER.

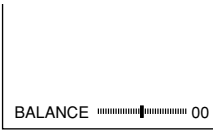


Select	To
“SOUND MODE”	choose either “DYNAMIC”, “DRAMA”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“SURROUND”	choose either “TruSurround”, “SIMULATED” or “OFF” (see page 14).
“INTELLIGENT VOL”	adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted sound settings from the “ADJUST” option (see page 23).

Adjusting the "ADJUST" items under "SOUND MODE"

1 Press ↑ or ↓ to select the desired item (e.g., "BALANCE"), then press ENTER.



2 Adjust the value according to the following table, then press ENTER .

For	Press ↓ or ← to	Press ↑ or → to
"BASS"	decrease the bass.	increase the bass.
"TREBLE"	decrease the treble.	increase the treble.
"BALANCE"	increase the left speaker's volume.	increase the right speaker's volume.
"BBE"	select "HIGH" for higher enhancement of sound clarity; select "LOW" for lower enhancement of sound clarity; select "OFF" to cancel BBE sound.	

3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select "PERSONAL".

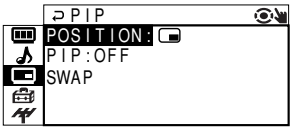
■ Changing the Picture-in-Picture ("PIP") setting

▶ KV-AR34M64/AR29M64 only

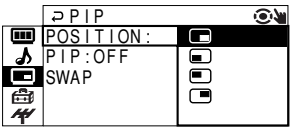
The "PIP" menu allows you to display a sub screen, change the sub screen position and exchange pictures between the main and sub screens.

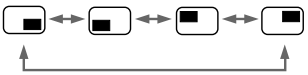
1 Press MENU.

2 Press ↑ or ↓ to select the "PIP" icon (), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "POSITION"), then press ENTER.



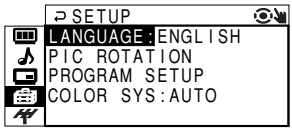
Select	To
"POSITION"	change the position of the sub screen. Press ↑ or ↓ to select the desired position, then press ENTER . 
"PIP"	display a sub screen. Press ↑ or ↓ to select "ON", then press ENTER . To cancel, press or select "OFF", then press ENTER .
"SWAP"	exchange pictures between the main screen and sub screen.

■ Changing the “SETUP” setting

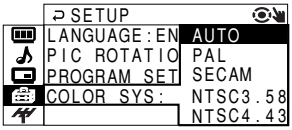
The “SETUP” menu allows you to change the menu language, adjust the picture position, set up your program numbers and select the color system.

1 Press MENU.

2 Press ↑ or ↓ to select the “SETUP” icon (🧰), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “COLOR SYS”), then press ENTER.



Select	To
“LANGUAGE”	change the menu language. Press ↑ or ↓ to select either “ENGLISH”, “中文” (Chinese), “ عربي ” (Arabic), or “ ไทย ” (Thai), then press ENTER. The selected menu language appears.
“PIC ROTATION”	adjust the picture position when it is not aligned with the TV screen. Press ↑ , → , ↓ or ← to adjust the picture position, then press ENTER.
“PROGRAM SETUP”	adjust each channel settings (see **Adjusting each program number settings (“PROGRAM SETUP”)** on page 26).
“COLOR SYS”	select the color system. Normally, set this to “AUTO”.

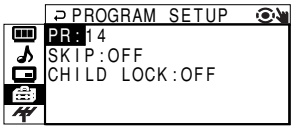
continue

continued

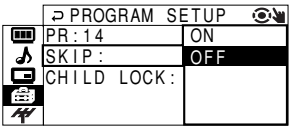
Adjusting each program number settings (“PROGRAM SETUP”)

1 Select “PROGRAM SETUP” from the “SETUP” menu.

2 Select “PR” and press ENTER. Press ↑ or ↓ to select the desired program number you want to adjust, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SKIP”), then press ENTER.



Select	To
“PR”	select the desired program number.
“SKIP”	skip unwanted or unused program number. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“CHILD LOCK”	prevent children from watching this selected program number. Press ↑ or ↓ to select “ON”, then press ENTER. The lock symbol (🔒) appears on the screen. To cancel, select “OFF”, then press ENTER. If you preset a locked program number, that program number will be unlocked automatically.

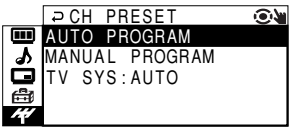
4 To continue adjusting other program numbers, press ↑ or ↓ to select “PR”, then repeat step 2 and 3.

■ Changing the Channel Preset (“CH PRESET”) setting

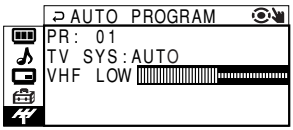
The “CH PRESET” menu allows you to preset channels automatically, manually preset channels and select the TV system.

1 Press MENU.

2 Press ↑ or ↓ to select the “CH PRESET” icon (), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “AUTO PROGRAM”), then press ENTER.



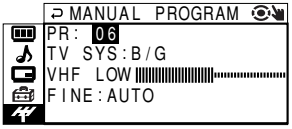
Select	To
“AUTO PROGRAM”	preset channels automatically.
“MANUAL PROGRAM”	manually preset desired channels and channels that cannot be preset automatically (see **Presetting channels manually** on page 28).
“TV SYS”	select the TV system. Press ↑ or ↓ to select either “B/G”, “I”, “D/K” or “M”, then press ENTER.

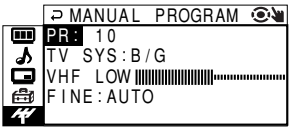
Presetting channels manually

1 After selecting "MANUAL PROGRAM", select the program number to which you want to preset a channel.

(1) Make sure "PR" is selected, then press ENTER.

(2) Press ↑ or ↓ until the program number you want to preset (e.g., program number "10") appears on the menu, then press ENTER.

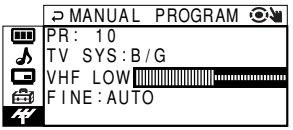


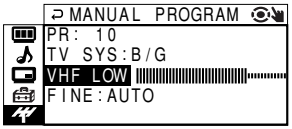


2 Select the desired channel.

(1) Make sure either "VHF LOW", "VHF HIGH", or "UHF" is selected, then press ENTER.

(2) Press ↑ or ↓ until the desired channel's broadcast appears on the TV screen, then press ENTER.

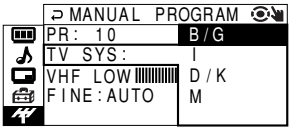


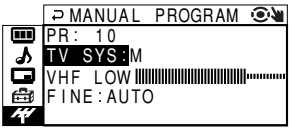


3 If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ↑ or ↓ to select "TV SYS", then press ENTER.

(2) Press ↑ or ↓ until the sound becomes normal, then press ENTER.



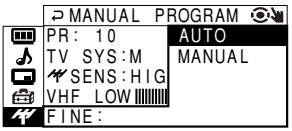


Tip

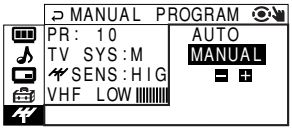
- You can also select the program number with the PROGR +/– or number buttons.

4 If you are not satisfied with the picture and sound quality, you may be able to improve them by using the "FINE" tuning feature.

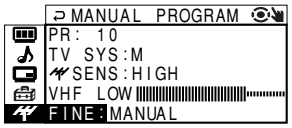
(1) Press ↑ or ↓ to select "FINE", then press ENTER.



(2) Press ↑ or ↓ to select "MANUAL", then press ENTER.

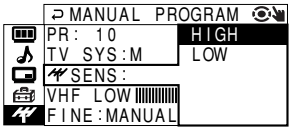


(3) Press ↑, ↓, ← or → until the picture and sound quality are optimal, then press ENTER.
The + or – icon on the menu flashes while tuning.

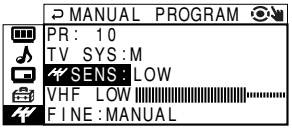


5 If the TV signal is too strong and the picture is distorted, you can adjust the TV reception sensitivity.

(1) Press ↑ or ↓ to select "SENS", then press ENTER.



(2) Press ↑ or ↓ to select "LOW", then press ENTER.

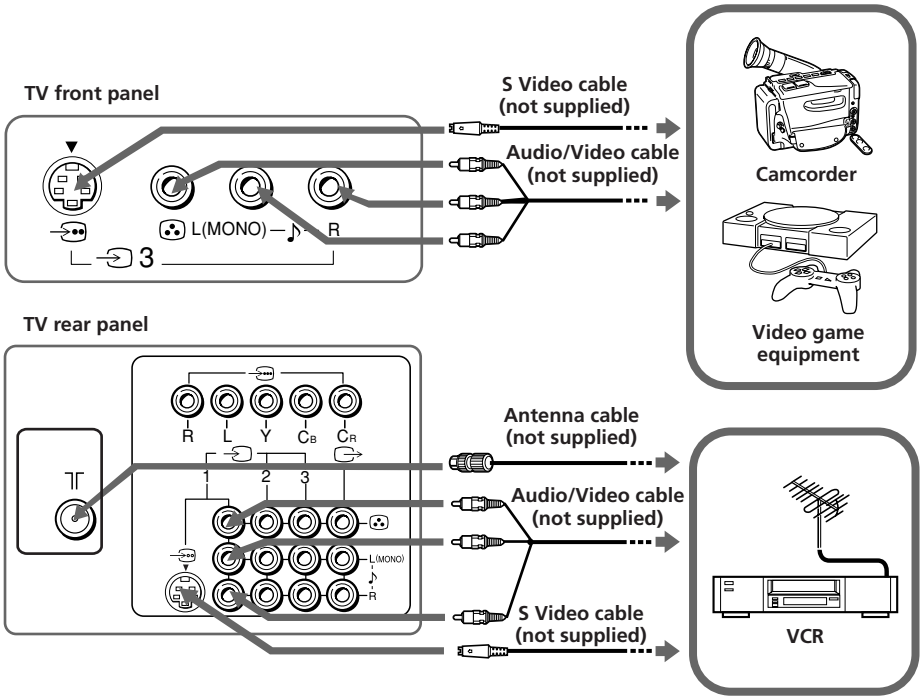


Notes

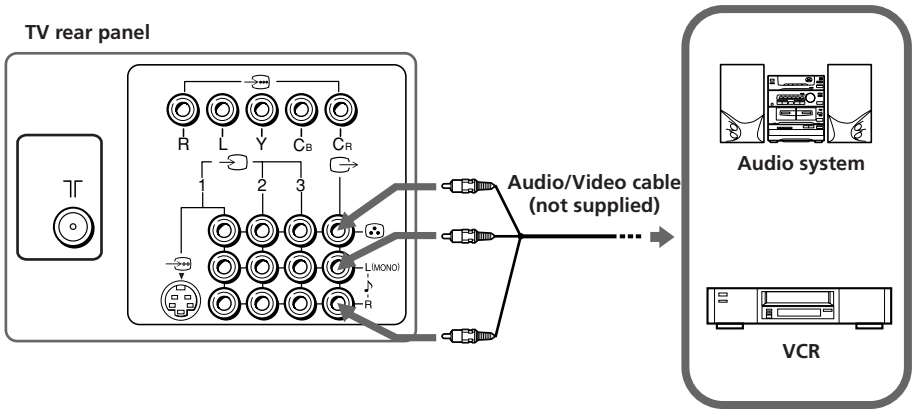
- If you connect a VCR to ⅂ (antenna input), preset the signal output from the VCR to the program number 0 on the TV.
- "SENS" is available for KV-AR34M64/AR29M64 only.

■ Connecting optional components

Connecting to the video input terminal ( )



Connecting to the monitor output terminal ( )

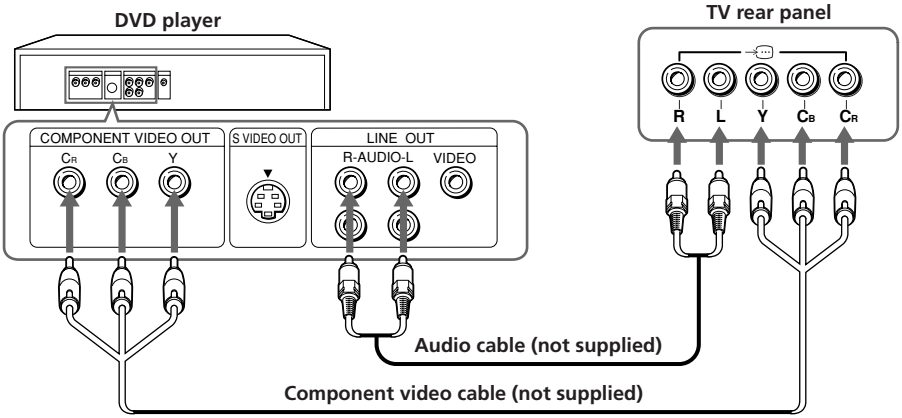


Connecting a DVD player to the component video input terminal ( )

1 Using an audio cable, connect R and L under (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.

2 Using a component video cable, connect Y, C_B, and C_R under (component video input) on your TV to the COMPONENT VIDEO OUT Y, C_B, and C_R output connectors on your DVD player.

3 Press DVD on the remote to watch the (component video input) and "DVD" will appear on your screen.



Notes

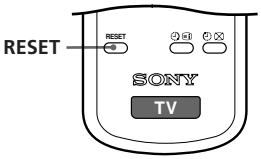
- If your DVD player can ouput interlace and progressive mode signals, select the interlace output when connecting to (component video input) on your TV. Your TV can receive either 525i/60Hz or 625i/50Hz interlace signals.
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
C_B (blue)	C_B, P_B, C_b or B-Y
C_R (red)	C_R, P_R, C_r or R-Y

- When both (S video) and (video) for 1 or 3 are connected at the same time, (S video) is automatically selected. To view (video), disconnect the S video cable.
- If you select "DVD" on your TV screen, the signal from the (monitor output) jacks will not be output properly. This does not indicate a malfunction.

■ Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

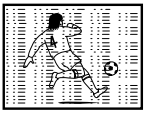


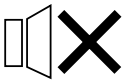
Reset function

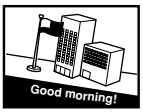
Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with "RESET" displayed on your TV screen for about 10 seconds.

Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture  **Noisy sound**	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	30
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Channel presetting is inappropriate or incomplete.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM" to preset the channel again.	28
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture **Noisy sound**	• Broadcast signals are too strong.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM". Then, select "SENS: LOW". (KV-AR34M64/AR29M64 only)	29
		• Turn off or disconnect the booster if it is in use.	–
Good picture **Noisy sound**	• The TV system setting is inappropriate.	• Display the "CH PRESET" menu and select the appropriate TV system ("TV SYS").	28
	• PIP sound is selected when PIP is displayed.	• Press SOUND or . (KV-AR34M64/AR29M64 only)	13

Symptom	Possible cause	Solutions	Page
No picture **No sound** 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and VCR connections.	30
	• The TV is not turned on.	• Press I/⏻ (power). • Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8
Good picture **No sound** 	• The volume level is too low.	• Press + to increase the volume level.	9
	• The sound is muted. • PIP sound is selected when PIP is displayed.	• Press to cancel the muting. • Press SOUND or . (KV-AR34M64/AR29M64 only)	9 13
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Check the antenna setup. Contact a Sony dealer for advice.	– –
Double images or "ghosts" 	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning ("FINE") function.	– 29
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color 	• The color level setting is too low.	• Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	21
	• The color system setting is inappropriate.	• Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	25
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–

Symptom	Possible cause	Solutions	Page
Picture slant 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	– 25
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.	–
TV cannot receive stereo broadcast sound.	• The stereo reception setting is inappropriate.	• Press A/B until "AUTO" appears on the screen.	16
or	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	30
Stereo broadcast sound switches on and off or is distorted.	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
The ⏻ (standby) indicator on your TV flashes red several times after every three seconds.	• Your TV's self-diagnosis function indicates the possible problems.	• Count the number of times the ⏻ (standby) indicator flashes. Press ⏻ (main power) to turn off your TV. Contact your nearest Sony service center.	–
Cannot play shooting games.	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For details, see the instruction manual supplied with the video game software.	—	–
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.	—	–
A small "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

■ Specifications

	KV-AR34M64	KV-AR29M68 KV-AR29M64	KV-AR25M68	Note
Power requirements	220 – 240 V AC, 50/60 Hz			
Power consumption (W)	Indicated on the rear of the TV			
Television system	B/G, I, D/K, M			
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43			
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual B/G			
Channel coverage				
B/G	VHF : E2 to E12 UHF : E21 to E69 CATV : S01 to S03, S1 to S41			
I	UHF : B21 to B68 CATV : S01 to S03, S1 to S41			
D/K	VHF : C1 to C12, R1 to R12 UHF : C13 to C57, R21 to R60 CATV : S01 to S03, S1 to S41, Z1 to Z39			
M	VHF : A2 to A13 UHF : A14 to A79 CATV : A-8 to A-2, A to W+4, W+6 to W+84			
(Antenna)	75-ohm external terminal			
Audio output (Speaker)	8W + 8W			
Number of terminal				
(Video)	Input: 4* Output: 1	Phono jacks; 1 Vp-p, 75 ohms		* Three input lines available
(Audio)	Input: 4* Output: 1	Phono jacks; 500 mVrms		* Three input lines available
(S Video)	Input: 2	Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms		
(Component Video)	Input: 1	Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative C_B: 0.7 Vp-p, 75 ohms C_R 0.7 Vp-p, 75 ohms Audio: 500 mVrms		
(Headphone)	Output: 1	Stereo minijack		
Picture tube	34 in.	29 in.	25 in.	
Tube size (cm)	86	72	64	Measured diagonally
Screen size (cm)	80	68	60	Measured diagonally
Dimensions (w/h/d, mm)	896 × 686 × 569	765 × 578 × 502	650 × 517 × 496	
Mass (kg)	79	49	39	

Design and specifications are subject to change without notice.

Sony Thai Co., Ltd.
2126 Kromadit Building, New Petchburi Road,
Bangkapi, Huaykwang, Bangkok 10320

http://www.sony.net/

Sony Corporation

SONY

4-090-225-**11** (1)

Trinitron Color TV

Operating Instructions

GB

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

FD Trinitron

WEGA

KV-AR34
KV-AR29

M94
M64

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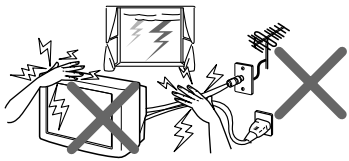
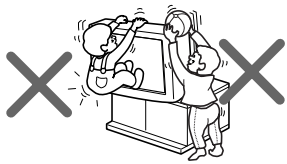
WARNING

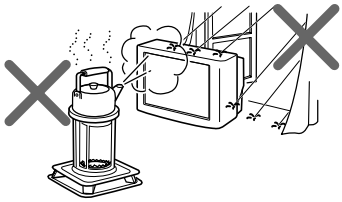
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 110 – 240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.



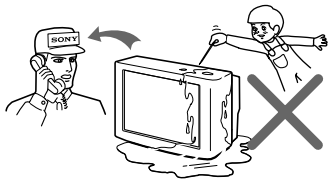
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



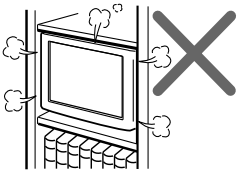
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



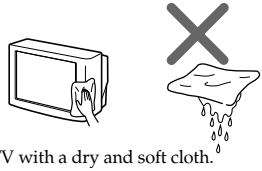
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



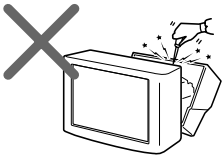
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



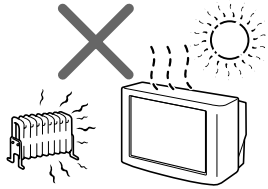
Do not block the ventilation openings of the TV.
Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



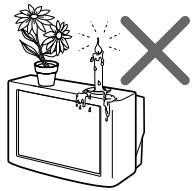
Clean the TV with a dry and soft cloth.
Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



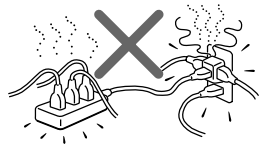
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



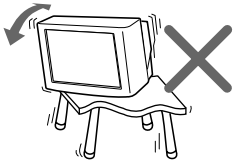
Your TV is recommended for home use only.
Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



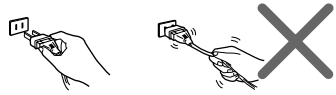
Do not place any objects on the TV.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



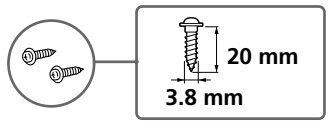
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

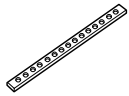
■ Securing the TV

To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.

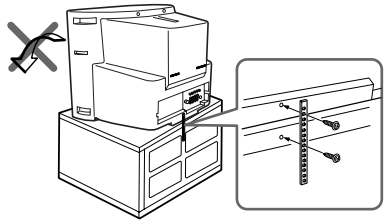


screws

clamps

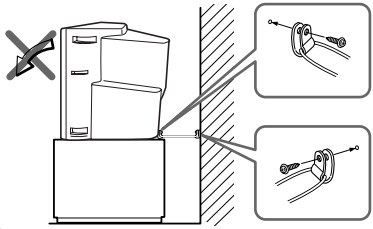


band



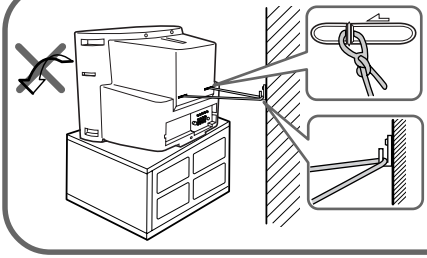
Screw the band to the TV stand and to the provided hole at the rear of your TV.

or



(1) Put a cord or chain through the clamps.
(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.
(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

Table of Contents

Installation

Getting Started **6**
Setting up your TV ("INITIAL SETUP") **7**

Overview of Controls

TV front and rear panels **8**
Remote control **9**

Advanced Operations

Selecting the picture and sound modes **11**
Viewing the picture with DTE **12**
Viewing the picture in wide mode .. **12**
Watching Picture-in-Picture (PIP) ... **13**
Selecting a TV program using PIP .. **14**
Listening with surround sound **14**
Setting the timers **15**
Enjoying stereo or bilingual programs **16**

Menu Adjustment

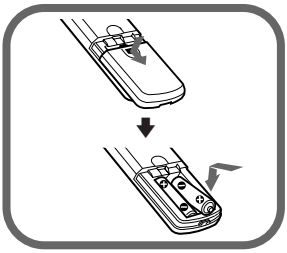
Introducing the menu system **17**
Changing the "PICTURE" setting ... **20**
Changing the "SOUND" setting **22**
Changing the Picture-in-Picture ("PIP") setting **24**
Changing the "SETUP" setting **25**
Changing the Channel Preset ("CH PRESET") setting **27**

Additional Information

Connecting optional components ... **30**
Troubleshooting **32**
Specifications ..... **Back cover**

GB

■ Getting Started

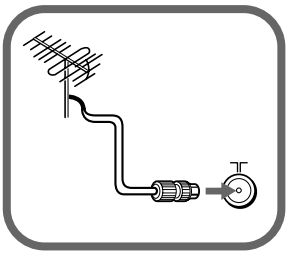


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

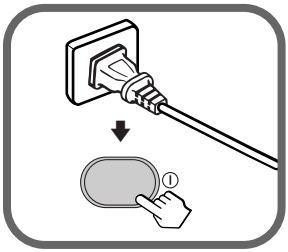


Step 2

Connect the antenna cable (not supplied) to ⅂⊢ (antenna input) at the rear of the TV.

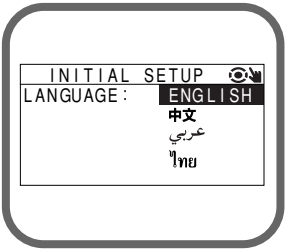
Tip

- You can also connect your TV to other optional components (see page 30).



Step 3

Plug in the power cord, then press ⏻ on the TV to turn it on.

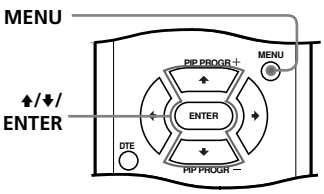


Step 4

Set up the TV by following the instructions of the "INITIAL SETUP"menu (see page 7).

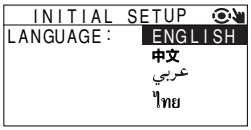
■ Setting up your TV (“INITIAL SETUP”)

When you turn on your TV for the first time, the “INITIAL SETUP” menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



1 Press ↑ or ↓ to select the desired menu language (e.g.,”ENGLISH”), then press ENTER.

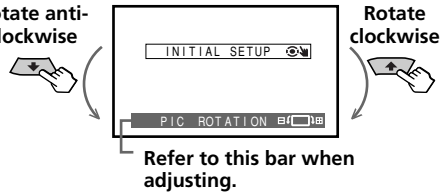
The selected menu language appears.



2 If the “PIC ROTATION” bar is slanted, press ↑ or ↓ to adjust it, then press ENTER.

If no adjustment is necessary, then press ENTER.

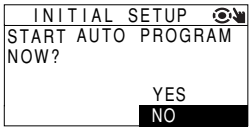
The ⊞ or ⊟ icon on the screen flashes while adjusting.

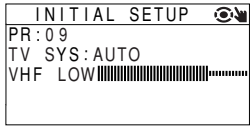


3 Press ↑ or ↓ to select “YES”, then press ENTER to preset the channels automatically (see page 27).

The screen will indicate automatic presetting is in progress.

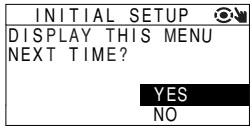
To skip automatic channel presetting, select “NO”, then press ENTER.





4 Press ↑ or ↓ to select “NO”, then press ENTER. The “INITIAL SETUP” menu will not appear again the next time you turn on the TV by pressing ⏻.

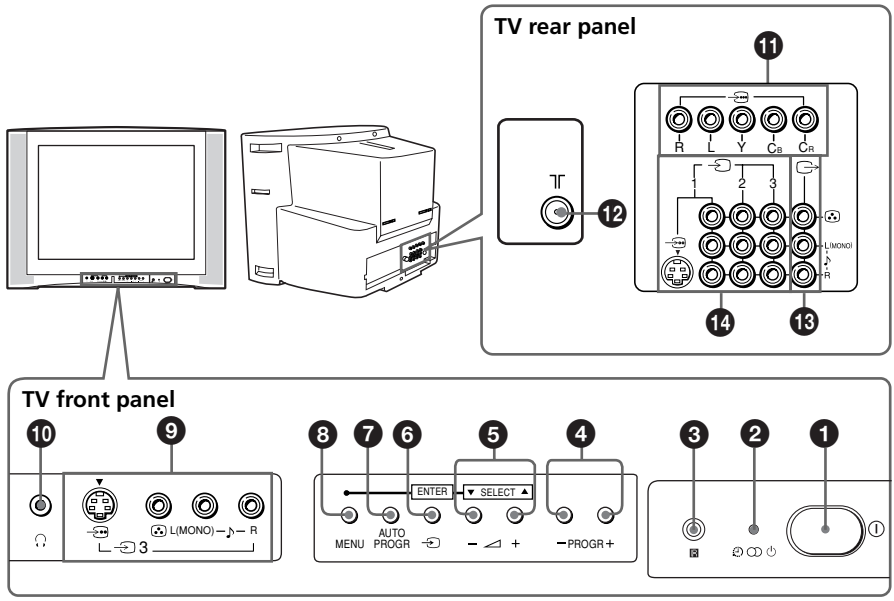
To allow this menu to appear again, select “YES”, then press ENTER.



Tips

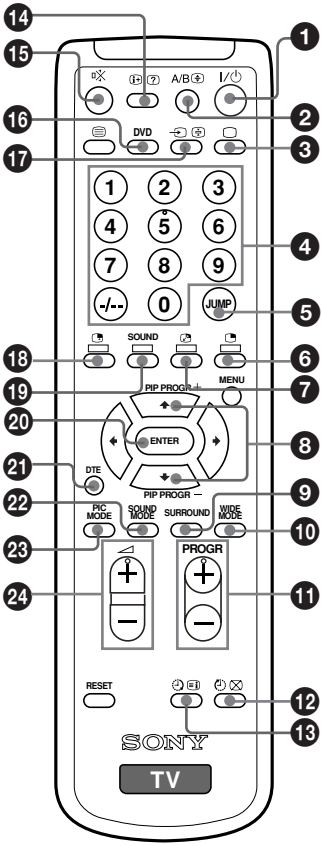
- You can immediately go to the end of the ”INITIAL SETUP” menu by pressing MENU.
- You can also set up your TV using the menu system (see page 17).

■ TV front and rear panels



Button/Terminal	Function	Page
❶ ⏻	Turn off or turn on the TV.	6
❷ ⏻	Standby indicator.	–
❷ 🕘	Wake Up indicator.	15
❷ ⧉	Stereo/bilingual indicator.	16
❸	Remote control sensor.	–
❹ PROGR +/–	Select program number.	–
❺ ◿ +/–	Adjust volume.	–
❻ ⇥	Select TV or video input.	–
❼ AUTO PROGR	Preset channels automatically.	–
Menu operations		
❺ SELECT ▼/▲	Select and adjust items.	19
❻ ENTER	Confirm selected items.	19
❽ MENU	Display or cancel the menu.	19
❾ ⇥3	Video input terminal 3.	30
❿ 🎧	Headphone jack.	–
⓫ ⇥	Component video input terminal.	31
⓬ ⊤	Antenna input terminal.	30
⓭ ⇤	Monitor output terminal.	30
⓮ ⇥1, ⇥2, ⇥3	Video input terminal 1, 2, 3.	30

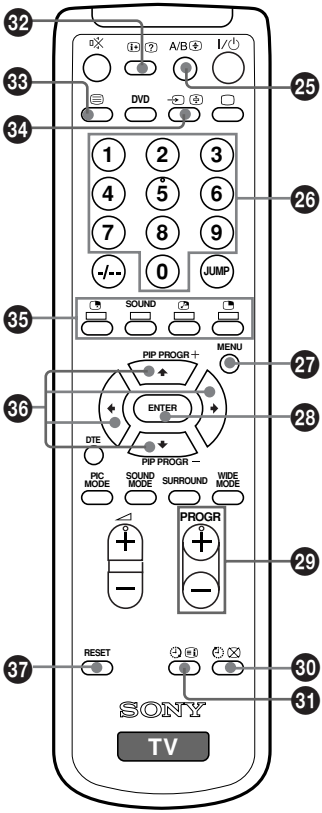
■ Remote control



Button	Function	Page
❶ I/⏻	Turn off temporarily or turn on the TV.	–
❸ ▭	Display the TV input.	–
❹ 0 – 9, -/--	Input numbers.	–
❺ JUMP	Jump to previous program number.	–
❾ SURROUND	Select surround mode.	14
❿ WIDE MODE	Select wide-mode (16:9).	12
⓫ PROGR +/–	Select program number.	–
⓮ ⓘ+	Display on-screen information.	–
⓯ 🔇	Mute the sound.	–
⓰ DVD	Select component video input.	31
⓱ ⏎	Select TV or video input.	30
㉑ DTE	Select DTE mode.	12
㉒ SOUND MODE	Select sound mode.	11
㉓ PIC MODE	Select picture mode.	11
㉔ ◿ +/–	Adjust volume.	–
Timer operations		
⓬ ⏲	Set TV to turn off automatically.	15
⓭ ⏲	Set TV to turn on automatically.	15
PIP operations (yellow label)		
❻ ◔	Display a sub screen.	13
❼ ◔	Swap main and sub screens.	13
❽ PIP PROGR + / PIP PROGR –	Display and change programs in the sub screen.	13,14
⓲ ◔	Select a video input in the sub screen.	13
⓳ SOUND	Swap sound between main and sub screen.	13
⓴ ENTER	Change sub screen to main screen.	14
Stereo/bilingual operations		
❷ A/B	Select stereo/bilingual mode.	16

continue

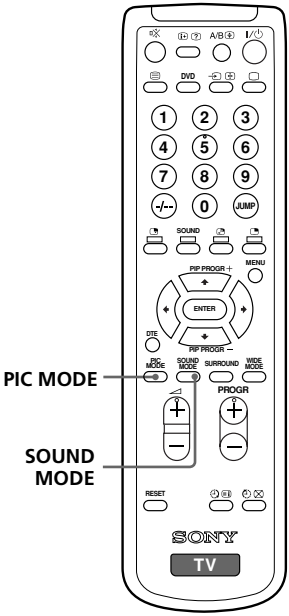
continued



Button	Function	Page
Menu operations		
㉗ MENU	Display or cancel the menu.	19
㉘ ENTER	Confirm selected items.	19
㊱ ↑, ↓, ←, →	Select and adjust items.	19
Teletext operations (green label)		
㉕ ⇳	Not function for your TV.	–
㉖ 0 – 9		
㉙ PROGR +/–		
㉚ ⊠		
㉛		
㉜ ?		
㉝ ☰		
㉞ ⇳		
㉟ ■ (red, green, yellow, blue)		
㊲ RESET	Set TV to factory setting.	32

■ Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the “PERSONAL” option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
“DYNAMIC”	view high contrast pictures.
“STANDARD”	view normal pictures.
“SOFT”	view mild pictures.
“PERSONAL”	receive the last adjusted picture setting from the “ADJUST” option in the “PICTURE” menu (see page 21).

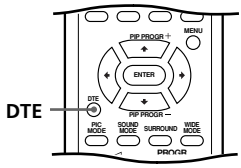
Selecting the sound mode

Press SOUND MODE to select the desired sound mode.

Select	To
“♪ DYNAMIC”	listen to dynamic and clear sound that emphasizes both the low and high tones.
“♪ DRAMA”	listen to sound that emphasizes voice and high tones.
“♪ SOFT”	listen to soft sound.
“♪ PERSONAL”	receive the last adjusted sound setting from the “ADJUST” option in the “SOUND” menu (see page 23).

■ Viewing the picture with DTE

The Digital Texture Enhancer (DTE) feature allows you to enjoy a more natural and vivid picture by optimizing the contrast of each object in the picture. You can use the DTE button to select “ON” or “OFF”.



Select	To
“ON”	enhance each object’s details and contours with optimum contrast.
“OFF”	cancel DTE.

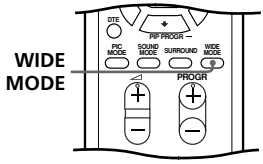
Note

- The DTE mode is not selectable when the “GAME MODE”is turned “ON”.

The DTE logo (DTE Digital Texture Enhancer) and “DTE” are trademarks of Sony Corporation.

■ Viewing the picture in wide mode

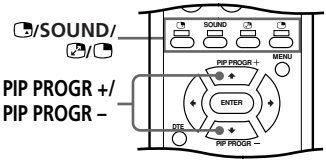
When receiving a wide-mode (16:9) signal, the picture will appear “squeezed” (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.



Select	To
“ON”	view the picture in wide-mode (16:9).
“OFF”	cancel wide-mode (16:9).

■ Watching Picture-in-Picture (PIP)

With the PIP feature, you can display two different TV programs or video input at the same time by using the ◔ button.



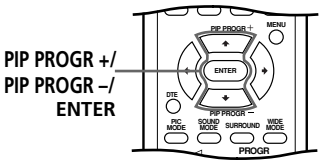
To	Press
Display a sub screen	◔. To cancel the sub screen, press the button again.
Change a program number in the sub screen	PIP PROGR + or PIP PROGR –.
Select a video input in the sub screen	◔.
Swap pictures between the main and sub screens	◔.
Swap sound between the main and sub screens A "♪" symbol will appear next to the program number or video input display to indicate which screen you are hearing.	SOUND.

Note

- The picture and sound from the ⇨ (monitor output) terminals will always be from the main screen, even when you select the sub screen sound by pressing SOUND (see page 30).

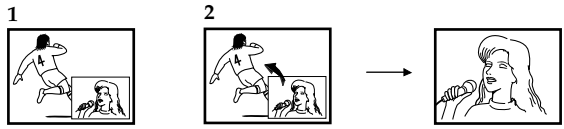
■ Selecting a TV program using PIP

You can select your desired TV program directly from the PIP sub screen by using PIP PROGR +/– buttons.



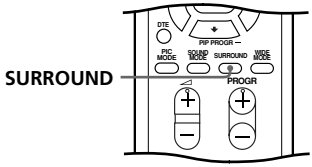
1 Press PIP PROGR +/– until the desired program appears in the sub screen.

2 Press ENTER to change the sub screen program to the main screen.



■ Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



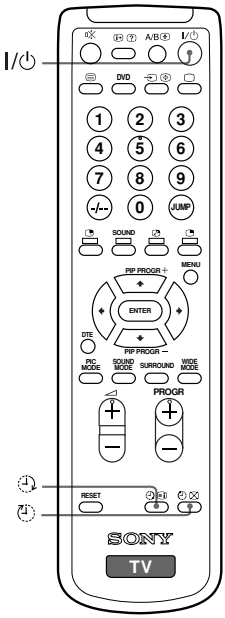
Select	To
"TruSurround"	listen to the surround sound that spreads out to the rear of a room.
"SIMULATED"	listen to monaural sound with a stereo-like effect.
"OFF"	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

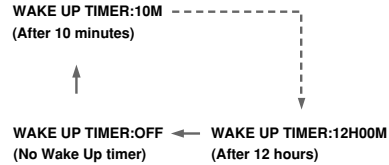
■ Setting the timers

You can set your TV to turn on and off automatically by using the WAKE UP and SLEEP timers respectively.



Setting the Wake Up timer

1 Press 🕘 until the desired period of time appears on the screen.



The Wake Up timer starts immediately after you have set it.

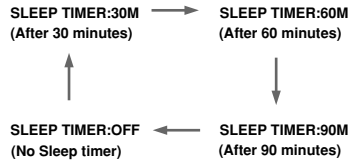
2 Select the program number or video input you want to wake up to.

3 Press **I**/⏻, or set the Sleep timer if you want the TV to turn off automatically.

The 🕘 indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press 🕘 until the desired period of time appears on the screen.



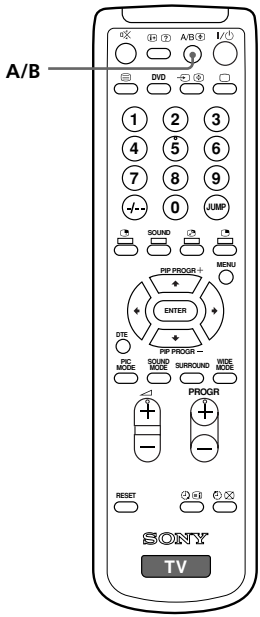
The Sleep timer starts immediately after you have set it.

Notes

- You can also cancel the Wake Up and Sleep timers by pressing ⏻ on the TV to turn off the TV.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

■ Enjoying stereo or bilingual programs

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems by using the A/B button.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound)
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound)

When receiving an A2 program

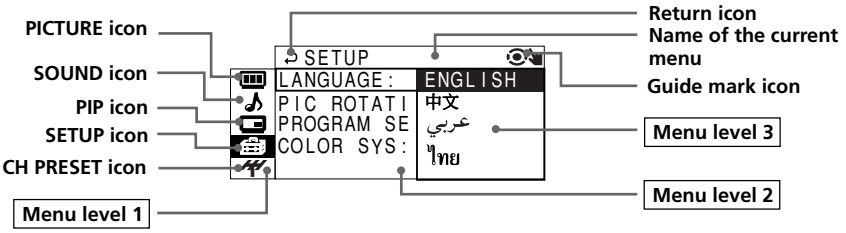
Broadcasting	On-screen display (Selected sound)
A2 stereo	STEREO (Stereo sound) → MONO (Regular sound)
A2 bilingual	MAIN (Main sound) → SUB (Sub sound)

Notes

- If the stereo sound is noisy when receiving a stereo program, select “MONO”. The sound becomes monaural, but the noise is reduced.
- If the sound is distorted when receiving a monaural program through ⅂⌜ (antenna input), press A/B repeatedly until “MONO” appears on the screen. To cancel the monaural sound setting, press A/B again until “AUTO” appears on the screen.
- Your TV can only receive monaural sound when you select the PIP sub screen sound by pressing SOUND (see page 13).

■ Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



Level 1	Level 2	Level 3/Function	Page
"PICTURE"	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "SOFT" → "PERSONAL" → "ADJUST"	20
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"DTE"	Optimize the picture contrast: "ON" → "OFF"	
	"WIDE MODE"	Change the picture size. "ON" → "OFF"	
	"GAME MODE"	Adjust the picture settings for video games. "ON" → "OFF"	
"SOUND"	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	22
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" →"OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically: "ON" → "OFF"	
"PIP"	"POSITION"	Change the position of the sub screen.	24
	"PIP"	Display a sub screen within the main picture: "ON" → "OFF"	
	"SWAP"	Exchange pictures between main screen and sub screen.	

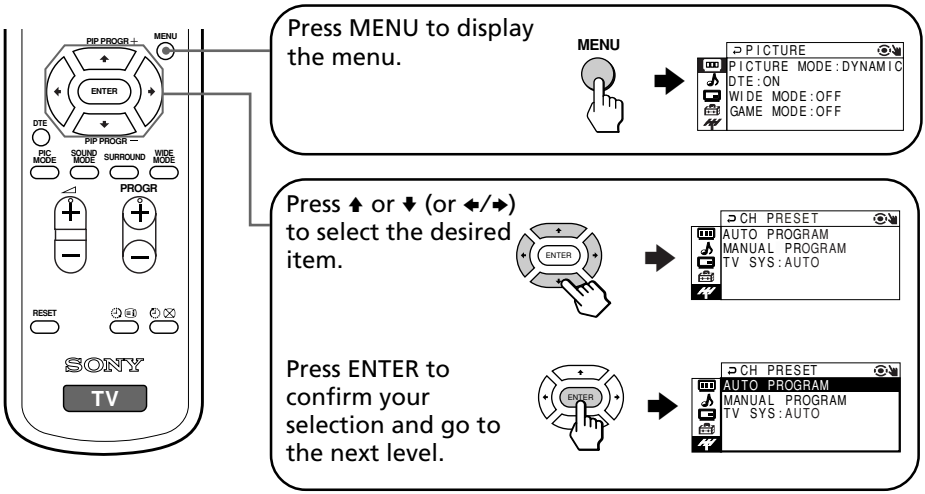
continue

continued

Level 1	Level 2	Level 3/Function	Page
"SETUP"	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文"(Chinese) → "عربي"(Arabic) → "ไทย"(Thai)	25
	"PIC ROTATION"	Adjust the picture position.	
	"PROGRAM SETUP"	Adjust each program number settings.	
	"COLOR SYS"	Select the color system: "AUTO" →" PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"	
"CH PRESET"	"AUTO PROGRAM"	Preset channels automatically.	27
	"MANUAL PROGRAM"	Preset channels manually.	
	"TV SYS"	Select the TV system: "B/G" → "I" → "D/K" → "M"	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

How to use the menu



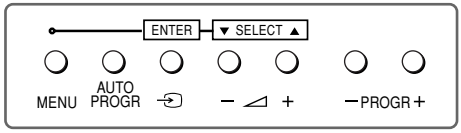
Other menu operations

To	Press
Adjust the setting value	↑, ↓, ← or →.
Move to the next/previous menu level	← or →.
Cancel the menu	MENU.

Tips

- If you want to exit from Menu level 2 to Menu level 1, press ↑ or ↓ until the return icon (⮌) is highlighted, then press ENTER.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, ENTER, and SELECT ▼/▲ buttons on the TV can also be used for the operations above.

Front of TV

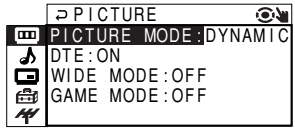


■ Changing the “PICTURE” setting

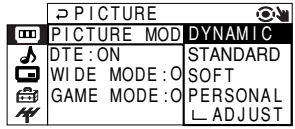
The “PICTURE” menu allows you to adjust the picture settings.

1 Press MENU.

2 Make sure the “PICTURE” icon (▣) is selected, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “PICTURE MODE”), then press ENTER.



Select	To
“PICTURE MODE”	choose either “DYNAMIC”, “STANDARD”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“DTE”	optimize the picture contrast. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“WIDE MODE”	choose either “ON” or “OFF” (see page 12).
“GAME MODE”	adjust the picture setting that is suitable to view video games. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted picture settings from the “ADJUST” option (see page 21).

Notes

- “GAME MODE” is available only when receiving signals through → (video input), → (S video input), or → (component video input).
- The DTE mode is not selectable when GAME MODE is on.

Adjusting the "ADJUST" items under "PICTURE MODE"

1 Press ↑ or ↓ to select the desired item (e.g.,"COLOR"), then press ENTER.

2 Adjust the value according to the following table, then press ENTER.

For	Press ↓ or ← to	Press ↑ or → to
"PICTURE"	decrease picture contrast.	increase picture contrast.
"COLOR"	decrease color intensity.	increase color intensity.
"BRIGHT"	darken the picture.	brighten the picture.
"HUE"	increase red picture tones.	increase green picture tones.
"SHARP"	soften the picture.	sharpen the picture.

3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select "PERSONAL".

Notes

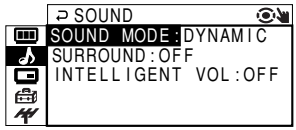
- "HUE" can be adjusted for the NTSC color system only.
- Reducing sharpness ("SHARP") can also reduce picture noise.

■ Changing the “SOUND” setting

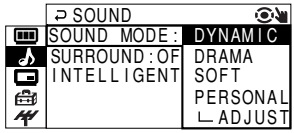
The “SOUND” menu allows you to adjust the sound settings.

1 Press MENU.

2 Press ↑ or ↓ to select the “SOUND” icon (♪), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SOUND MODE”), then press ENTER.

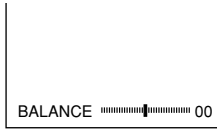


Select	To
“SOUND MODE”	choose either “DYNAMIC”, “DRAMA”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“SURROUND”	choose either “TruSurround”, “SIMULATED” or “OFF” (see page 14).
“INTELLIGENT VOL”	adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted sound settings from the “ADJUST” option (see page 23).

Adjusting the “ADJUST” items under “SOUND MODE”

1 Press ↑ or ↓ to select the desired item (e.g., “BALANCE”), then press ENTER.



2 Adjust the value according to the following table, then press ENTER .

For	Press ↓ or ← to	Press ↑ or → to
“BASS”	decrease the bass.	increase the bass.
“TREBLE”	decrease the treble.	increase the treble.
“BALANCE”	increase the left speaker’s volume.	increase the right speaker’s volume.
“BBE”	select “HIGH” for higher enhancement of sound clarity; select “LOW” for lower enhancement of sound clarity; select “OFF” to cancel BBE sound.	

3 Repeat the above steps to adjust other items.

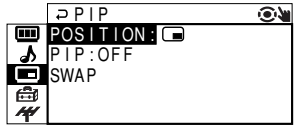
The adjusted settings will be received when you select “PERSONAL”.

■ Changing the Picture-in-Picture (“PIP”) setting

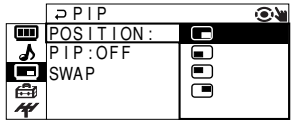
The “PIP” menu allows you to display a sub screen, change the sub screen position and exchange pictures between the main and sub screens.

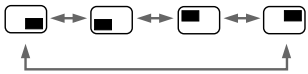
1 Press MENU.

2 Press ↑ or ↓ to select the “PIP” icon (▭), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “POSITION”), then press ENTER.



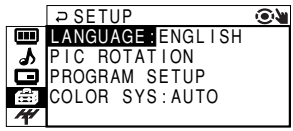
Select	To
“POSITION”	change the position of the sub screen. Press ↑ or ↓ to select the desired position, then press ENTER . 
“PIP”	display a sub screen. Press ↑ or ↓ to select “ON”, then press ENTER . To cancel, press ◔ or select “OFF”, then press ENTER .
“SWAP”	exchange pictures between the main screen and sub screen.

■ Changing the “SETUP” setting

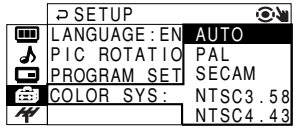
The “SETUP” menu allows you to change the menu language, adjust the picture position, set up your program numbers and select the color system.

1 Press MENU.

2 Press ↑ or ↓ to select the “SETUP” icon (🧰), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “COLOR SYS”), then press ENTER.

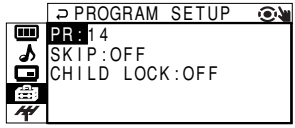


Select	To
“LANGUAGE”	change the menu language. Press ↑ or ↓ to select either “ENGLISH”, “中文” (Chinese), “ عربي ” (Arabic), or “ ไทย ” (Thai), then press ENTER. The selected menu language appears.
“PIC ROTATION”	adjust the picture position when it is not aligned with the TV screen. Press ↑ , → , ↓ or ← to adjust the picture position, then press ENTER.
“PROGRAM SETUP”	adjust each channel settings (see **Adjusting each program number settings (“PROGRAM SETUP”)** on page 26).
“COLOR SYS”	select the color system. Normally, set this to “AUTO”.

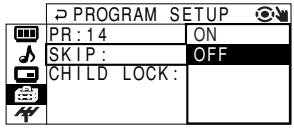
Adjusting each program number settings (“PROGRAM SETUP”)

1 Select “PROGRAM SETUP” from the “SETUP” menu.

2 Select “PR” and press ENTER. Press ↑ or ↓ to select the desired program number you want to adjust, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SKIP”), then press ENTER.



Select	To
“PR”	select the desired program number.
“SKIP”	skip unwanted or unused program number. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“CHILD LOCK”	prevent children from watching this selected program number. Press ↑ or ↓ to select “ON”, then press ENTER. The lock symbol (🔒) appears on the screen. To cancel, select “OFF”, then press ENTER. If you preset a locked program number, that program number will be unlocked automatically.

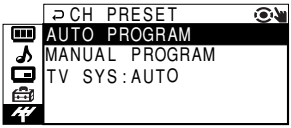
4 To continue adjusting other program numbers, press ↑ or ↓ to select “PR”, then repeat step 2 and 3.

■ Changing the Channel Preset (“CH PRESET”) setting

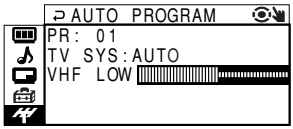
The “CH PRESET” menu allows you to preset channels automatically, manually preset channels and select the TV system.

1 Press MENU.

2 Press ↑ or ↓ to select the “CH PRESET” icon (), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “AUTO PROGRAM”), then press ENTER.



Select	To
“AUTO PROGRAM”	preset channels automatically.
“MANUAL PROGRAM”	manually preset desired channels and channels that cannot be preset automatically (see **Presetting channels manually** on page 28).
“TV SYS”	select the TV system. Press ↑ or ↓ to select either “B/G”, “I”, “D/K” or “M”, then press ENTER.

continue

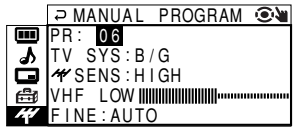
continued

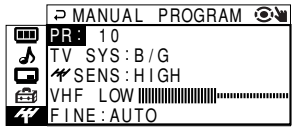
Presetting channels manually

1 After selecting "MANUAL PROGRAM", select the program number to which you want to preset a channel.

(1) Make sure "PR" is selected, then press ENTER.

(2) Press ↑ or ↓ until the program number you want to preset (e.g., program number "10") appears on the menu, then press ENTER.

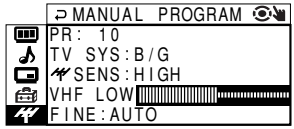


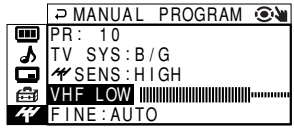


2 Select the desired channel.

(1) Make sure either "VHF LOW", "VHF HIGH", or "UHF" is selected, then press ENTER.

(2) Press ↑ or ↓ until the desired channel's broadcast appears on the TV screen, then press ENTER.

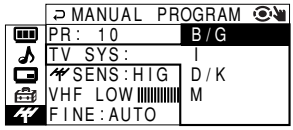


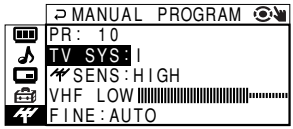


3 If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ↑ or ↓ to select "TV SYS", then press ENTER.

(2) Press ↑ or ↓ until the sound becomes normal, then press ENTER.



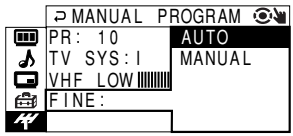


Tip

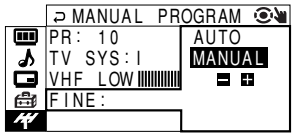
- You can also select the program number with the PROGR +/– or number buttons.

4 If you are not satisfied with the picture and sound quality, you may be able to improve them by using the "FINE" tuning feature.

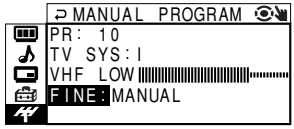
(1) Press ↑ or ↓ to select "FINE", then press ENTER.



(2) Press ↑ or ↓ to select "MANUAL", then press ENTER.

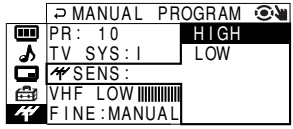


(3) Press ↑, ↓, ← or → until the picture and sound quality are optimal, then press ENTER.
The + or – icon on the menu flashes while tuning.

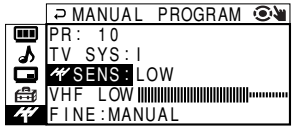


5 If the TV signal is too strong and the picture is distorted, you can adjust the TV reception sensitivity.

(1) Press ↑ or ↓ to select "SENS", then press ENTER.



(2) Press ↑ or ↓ to select "LOW", then press ENTER.

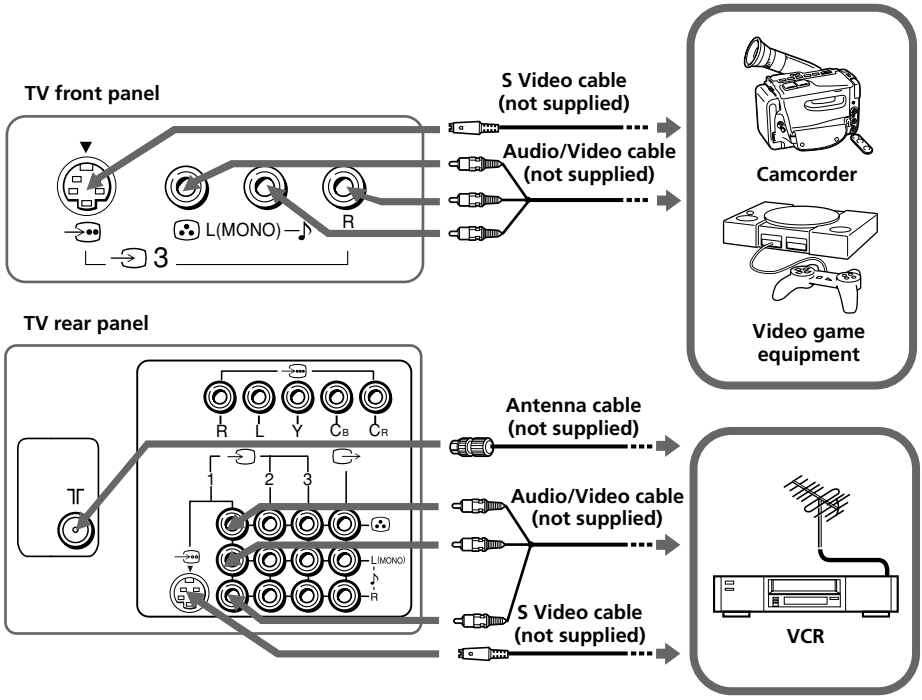


Note

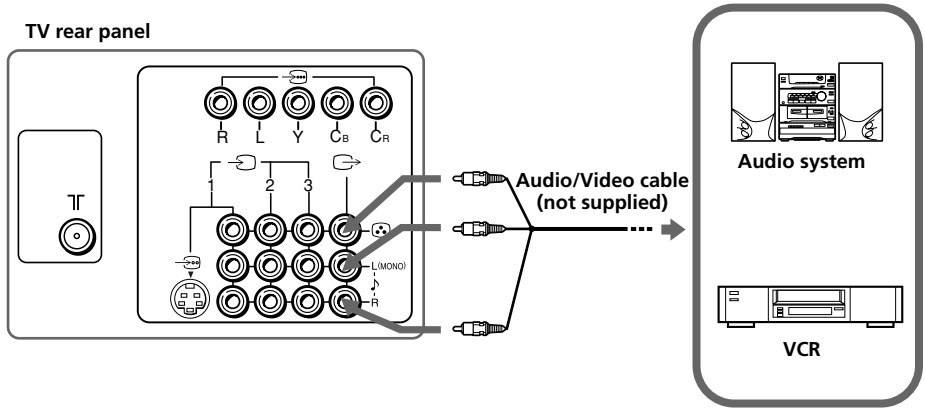
- If you connect a VCR to ⅂ (antenna input), preset the signal output from the VCR to the program number 0 on the TV.

■ Connecting optional components

Connecting to the video input terminal ( )

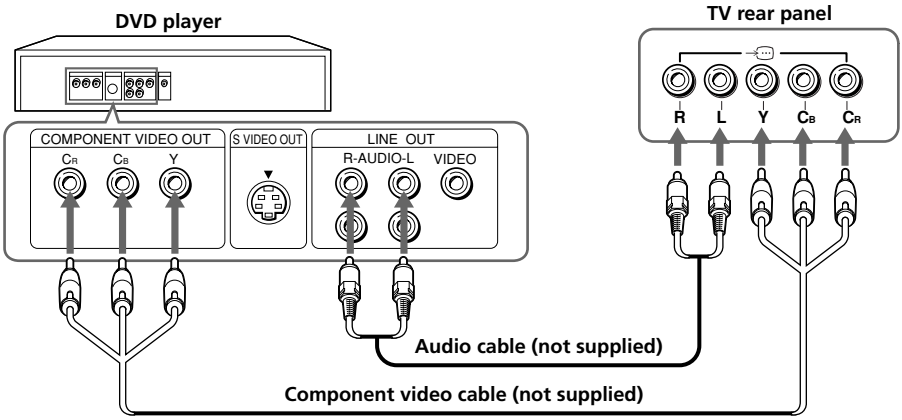


Connecting to the monitor output terminal ( )



Connecting a DVD player to the component video input terminal ( )

1 Using an audio cable, connect R and L under (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.
2 Using a component video cable, connect Y, C_B, and C_R under (component video input) on your TV to the COMPONENT VIDEO OUT Y, C_B, and C_R output connectors on your DVD player.
3 Press DVD on the remote to watch the (component video input) and "DVD" will appear on your screen.



Notes

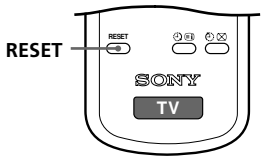
- If your DVD player can ouput interlace and progressive mode signals, select the interlace output when connecting to (component video input) on your TV. Your TV can receive either 525i/60Hz or 625i/50Hz interlace signals.
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
C_B (blue)	C_B, P_B, C_b or B-Y
C_R (red)	C_R, P_R, C_r or R-Y

- When both (S video) and (video) for 1 or 3 are connected at the same time, (S video) is automatically selected. To view (video), disconnect the S video cable.
- If you select "DVD" on your TV screen, the signal from the (monitor output) jacks will not be output properly. This does not indicate a malfunction.

■ Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

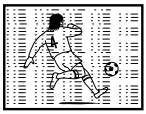


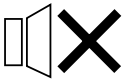
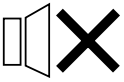
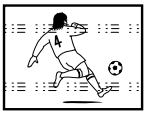
Reset function

Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with "RESET" displayed on your TV screen for about 10 seconds.

Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

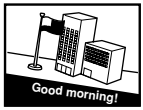
Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture 	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	30
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
Noisy sound	• Channel presetting is inappropriate or incomplete.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM" to preset the channel again.	28
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture	• Broadcast signals are too strong.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM". Then, select "SENS: LOW".	29
		• Turn off or disconnect the booster if it is in use.	–
Noisy sound			
Good picture	• The TV system setting is inappropriate.	• Display the "CH PRESET" menu and select the appropriate TV system ("TV SYS").	28
	• PIP sound is selected when PIP is displayed.	• Press SOUND or .	13
Noisy sound			

Symptom	Possible cause	Solutions	Page
No picture **No sound** 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and VCR connections.	30
	• The TV is not turned on.	• Press I/⏻ (power). • Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8
Good picture **No sound** 	• The volume level is too low.	• Press + to increase the volume level.	9
	• The sound is muted. • PIP sound is selected when PIP is displayed.	• Press 🔇 to cancel the muting. • Press SOUND or ◔.	9 13
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Check the antenna setup. Contact a Sony dealer for advice.	– –
Double images or "ghosts" 	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning ("FINE") function.	– 29
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color 	• The color level setting is too low.	• Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	21
	• The color system setting is inappropriate.	• Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	25
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–

continue

continued

Symptom	Possible cause	Solutions	Page
Picture slant 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	– 25
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.	–
TV cannot receive stereo broadcast sound.	• The stereo reception setting is inappropriate.	• Press A/B until "AUTO" appears on the screen.	16
or	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	30
Stereo broadcast sound switches on and off or is distorted.	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
The ⏻ indicator on your TV flashes red several times between three-second intervals.	• Your TV may need servicing.	• Contact your nearest Sony service center.	–
Cannot play shooting games.	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For detail, see the instruction manual supplied with the video game software.	—	–

Symptom	Possible cause	Solutions	Page
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.	—	–
A small "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

Specifications

	KV-AR34M94 KV-AR34M64	KV-AR29M94 KV-AR29M64	Note
Power requirements	110 – 220 V AC, 50/60 Hz		
Power consumption (W)	Indicated on the rear of the TV		
Television system	B/G, I, D/K, M		
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43		
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual B/G		
Channel coverage **B/G**	VHF : E2 to E12 UHF : E21 to E69 CATV : S01 to S03, S1 to S41		
I	UHF : B21 to B68 CATV : S01 to S03, S1 to S41		
D/K	VHF : C1 to C12, R1 to R12 UHF : C13 to C57, R21 to R60 CATV : S01 to S03, S1 to S41, Z1 to Z39		
M	VHF : A2 to A13 UHF : A14 to A79 CATV : A-8 to A-2, A to W+4, W+6 to W+84		
(Antenna)	75-ohm external terminal		
Audio output (Speaker)	8W + 8W		
Number of terminal **(Video)**	Input: 4* Output: 1	Phono jacks; 1 Vp-p, 75 ohms	* Three input lines available
(Audio)	Input: 4* Output: 1	Phono jacks; 500 mVrms	* Three input lines available
(S Video)	Input: 2	Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms	
(Component Video)	Input: 1	Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative C_B: 0.7 Vp-p, 75 ohms C_R 0.7 Vp-p, 75 ohms Audio: 500 mVrms	
(Headphone)	Output: 1	Stereo minijack	
Picture tube	34 in.	29 in.	
Tube size (cm)	86	72	Measured diagonally
Screen size (cm)	80	68	Measured diagonally
Dimensions (w/h/d, mm)	896 × 686 × 569	765 × 578 × 502	
Mass (kg)	79	49	

Design and specifications are subject to change without notice.

http://www.sony.net/
Sony Corporation

SONY

4-089-575-**11** (1)

Trinitron Color TV

Operating Instructions — GB

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

使用說明書 — CT

- 使用本電視機之前請先詳細閱讀此手冊，並妥善保存以備日後用作參考。

Panduan Pengendalian — MY

- Sebelum mengendalikan unit, sila baca buku panduan ini dengan teliti dan simpan untuk rujukan masa depan.

FD Trinitron WEGA

KV-AR34
KV-AR29
KV-AR25

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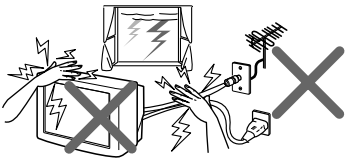
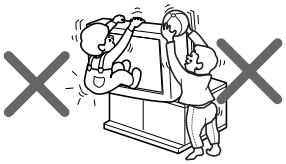
M66

WARNING

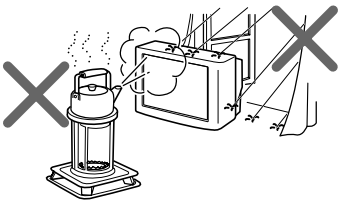
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 110 – 240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.



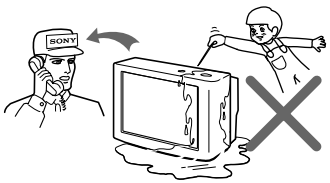
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



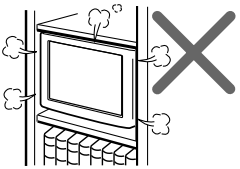
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



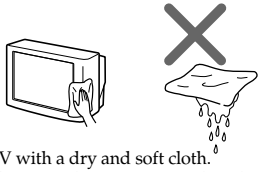
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



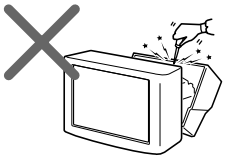
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



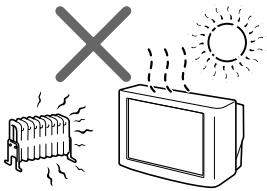
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



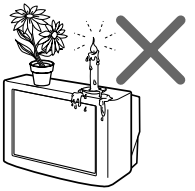
Clean the TV with a dry and soft cloth. Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



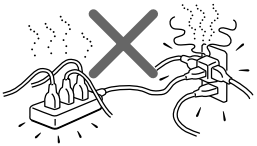
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



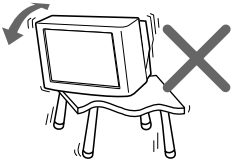
Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



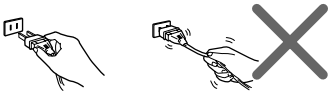
Do not place any objects on the TV.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



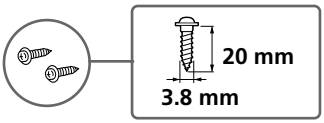
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

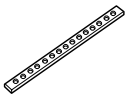
■ Securing the TV

To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.

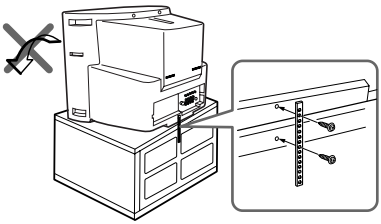


screws

clamps

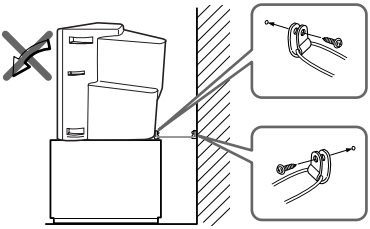


band



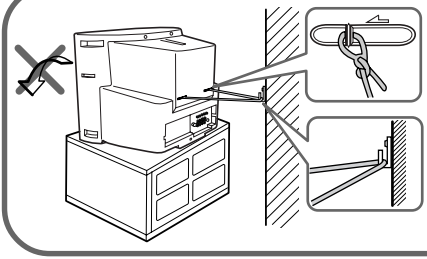
Screw the band to the TV stand and to the provided hole at the rear of your TV.

or



(1) Put a cord or chain through the clamps.
(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.
(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

Table of Contents

Installation

Getting Started **6**
Setting up your TV ("INITIAL SETUP") **7**

Overview of Controls

TV front and rear panels **8**
Remote control **9**

Advanced Operations

Selecting the picture and sound modes **11**
Viewing the picture with DTE **12**
Viewing the picture in wide mode .. **12**
Watching Picture-in-Picture (PIP) ... **13**
Selecting a TV program using PIP .. **14**
Listening with surround sound **14**
Setting the timers **15**
Enjoying stereo or bilingual programs **16**
Viewing Teletext **17**

Menu Adjustment

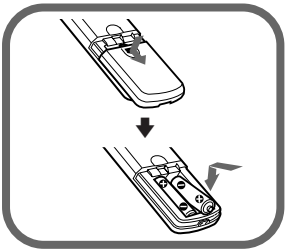
Introducing the menu system **18**
Changing the "PICTURE" setting ... **21**
Changing the "SOUND" setting **23**
Changing the Picture-in-Picture ("PIP") setting **25**
Changing the "SETUP" setting **26**
Changing the Channel Preset ("CH PRESET") setting **28**

Additional Information

Connecting optional components ... **31**
Troubleshooting **33**
Specifications ..... **Back cover**

GB

■ Getting Started

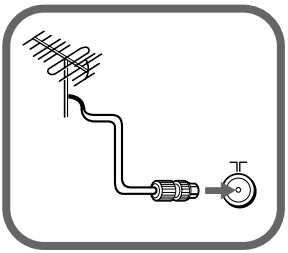


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

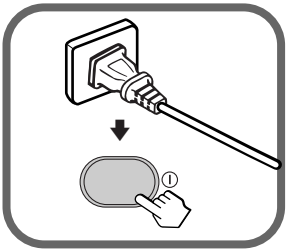


Step 2

Connect the antenna cable (not supplied) to ⅂⊢ (antenna input) at the rear of the TV.

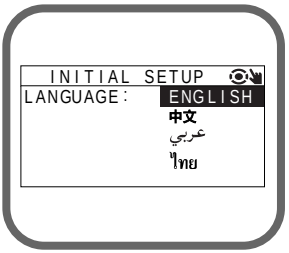
Tip

- You can also connect your TV to other optional components (see page 31).



Step 3

Plug in the power cord, then press ⏻ on the TV to turn it on.

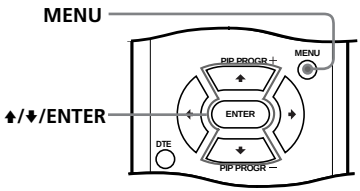


Step 4

Set up the TV by following the instructions of the "INITIAL SETUP"menu (see page 7).

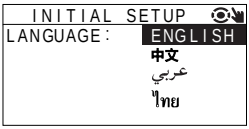
■ Setting up your TV ("INITIAL SETUP")

When you turn on your TV for the first time, the "INITIAL SETUP" menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



1 Press ↑ or ↓ to select the desired menu language (e.g.,"ENGLISH"), then press ENTER.

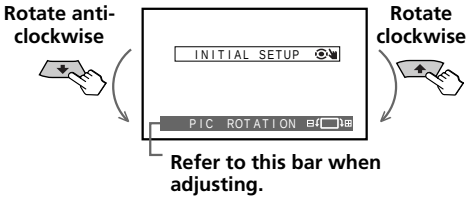
The selected menu language appears.



2 If the "PIC ROTATION" bar is slanted, press ↑ or ↓ to adjust it, then press ENTER.

If no adjustment is necessary, then press ENTER.

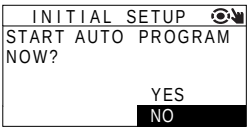
The ⊞ or ⊟ icon on the screen flashes while adjusting.

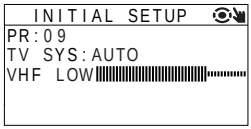


3 Press ↑ or ↓ to select "YES", then press ENTER to preset the channels automatically (see page 28).

The screen will indicate automatic presetting is in progress.

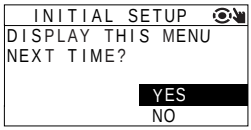
To skip automatic channel presetting, select "NO", then press ENTER.





4 Press ↑ or ↓ to select "NO", then press ENTER. The "INITIAL SETUP" menu will not appear again the next time you turn on the TV by pressing ⏻.

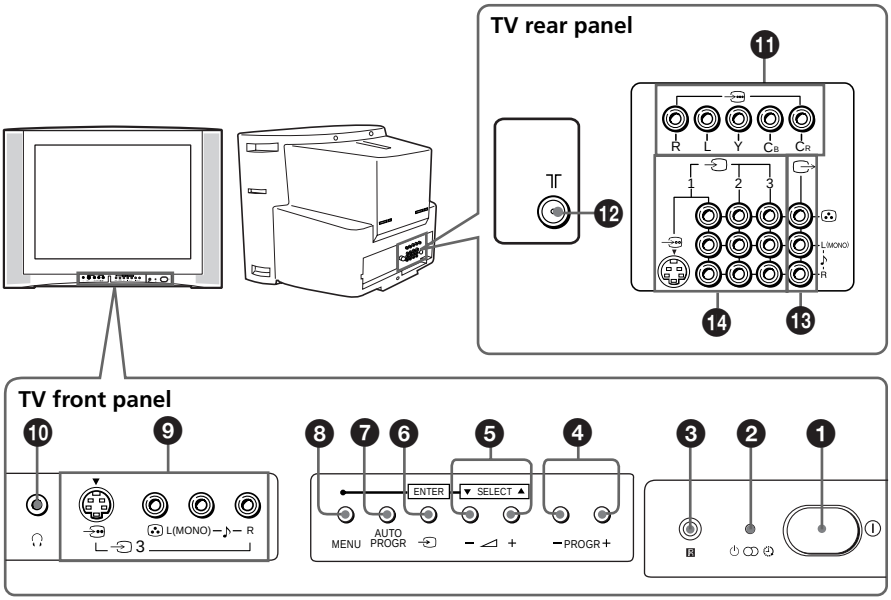
To allow this menu to appear again, select "YES", then press ENTER.



Tips

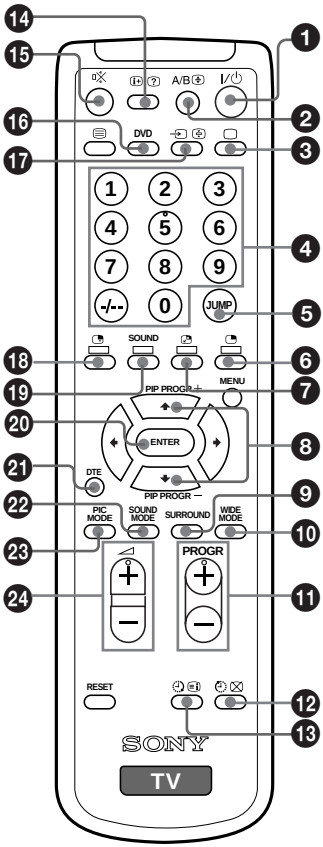
- You can immediately go to the end of the "INITIAL SETUP" menu by pressing MENU.
- You can also set up your TV using the menu system (see page 18).

■ TV front and rear panels



Button/Terminal	Function	Page
❶ ⏻	Turn off or turn on the TV.	6
❷ ⏻	Standby indicator.	–
❷ 🕘	Wake Up indicator.	15
❷ ◯◯	Stereo/bilingual indicator.	16
❸	Remote control sensor.	–
❹ PROGR +/–	Select program number.	–
❺ ◿ +/–	Adjust volume.	–
❻ ⇥	Select TV or video input.	–
❼ AUTO PROGR	Preset channels automatically.	–
Menu operations		
❺ SELECT ▼/▲	Select and adjust items.	20
❻ ENTER	Confirm selected items.	20
❽ MENU	Display or cancel the menu.	20
❾ ⇥3	Video input terminal 3.	31
❿ 🎧	Headphone jack.	–
⓫ ⇥	Component video input terminal.	32
⓬ ⊤	Antenna input terminal.	31
⓭ ⇨	Monitor output terminal.	31
⓮ ⇥1, ⇥2, ⇥3	Video input terminal 1, 2, 3.	31

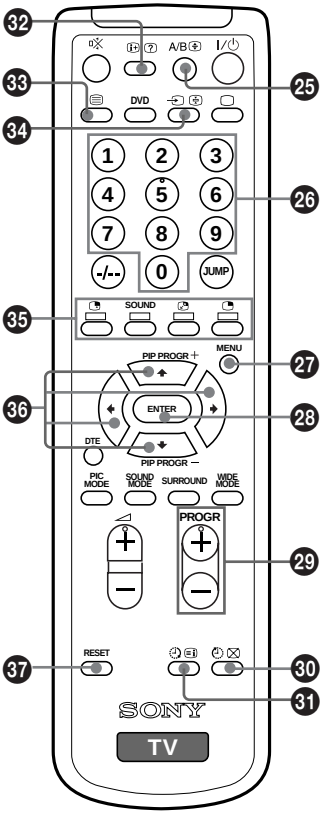
■ Remote control



Button	Function	Page
❶ I/⏻	Turn off temporarily or turn on the TV.	–
❸ ▭	Display the TV input.	–
❹ 0 – 9, -/--	Input numbers.	–
❺ JUMP	Jump to previous program number.	–
❾ SURROUND	Select surround mode.	14
❿ WIDE MODE	Select wide-mode (16:9).	12
⓫ PROGR +/–	Select program number.	–
⓮ i+	Display on-screen information.	–
⓯ 🔇	Mute the sound.	–
⓰ DVD	Select component video input.	32
⓱ ▭	Select TV or video input.	31
㉑ DTE	Select DTE mode.	12
㉒ SOUND MODE	Select sound mode.	11
㉓ PIC MODE	Select picture mode.	11
㉔ ◿ +/–	Adjust volume.	–
Timer operations		
⓬ ⏲	Set TV to turn off automatically.	15
⓭ ⏲	Set TV to turn on automatically.	15
PIP operations (yellow label)		
❻ ▭	Display a sub screen.	13
❼ ▭	Swap main and sub screens.	13
❽ PIP PROGR +/ PIP PROGR –	Display and change programs in the sub screen.	13,14
⓲ ▭	Select a video input in the sub screen.	13
⓳ SOUND	Swap sound between main and sub screen.	13
⓴ ENTER	Change sub screen to main screen.	14
Stereo/bilingual operations		
❷ A/B	Select stereo/bilingual mode.	16

continue

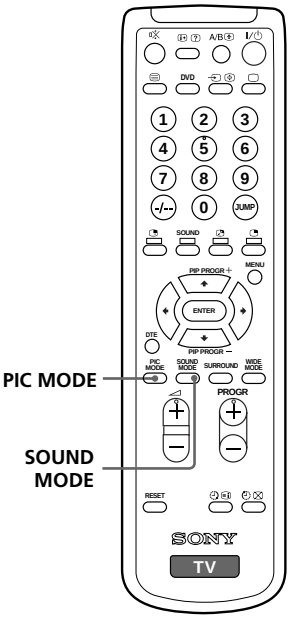
continued



Button	Function	Page
Menu operations		
㉗ MENU	Display or cancel the menu.	20
㉘ ENTER	Confirm selected items.	20
㊱ ↑, ↓, ←, →	Select and adjust items.	20
Teletext operations (green label)		
㉕ ⇳	Enlarge the Teletext display.	17
㉖ 0 – 9	Input Teletext page number.	17
㉙ PROGR +/–	Display the next or previous page.	17
㉚ ⊠	Show TV screen while waiting for Teletext page.	17
㉛ ⓘ	Display Teletext service contents.	17
㉜ ?	Reveal concealed information.	17
㉝ ☰	Displat Teletext broadcast.	17
㉞ ⇳	Stop Teletext display from scrolling.	17
㉟ ▬ (red, green, yellow, blue)	Access a FASTEXT menu.	17
㊲ RESET	Set TV to factory setting.	33

■ Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the “PERSONAL” option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
“DYNAMIC”	view high contrast pictures.
“STANDARD”	view normal pictures.
“SOFT”	view mild pictures.
“PERSONAL”	receive the last adjusted picture setting from the “ADJUST” option in the “PICTURE” menu (see page 22).

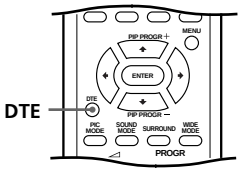
Selecting the sound mode

Press SOUND MODE to select the desired sound mode.

Select	To
“♪ DYNAMIC”	listen to dynamic and clear sound that emphasizes both the low and high tones.
“♪ DRAMA”	listen to sound that emphasizes voice and high tones.
“♪ SOFT”	listen to soft sound.
“♪ PERSONAL”	receive the last adjusted sound setting from the “ADJUST” option in the “SOUND” menu (see page 24).

■ Viewing the picture with DTE

The Digital Texture Enhancer (DTE) feature allows you to enjoy a more natural and vivid picture by optimizing the contrast of each object in the picture.
You can use the DTE button to select “ON” or “OFF”.



Select	To
“ON”	enhance each object’s details and contours with optimum contrast.
“OFF”	cancel DTE.

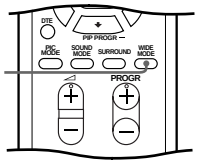
Note

- The DTE mode is not selectable when the “GAME MODE”is turned “ON”.

The DTE logo (DTE Digital Texture Enhancer) and “DTE” are trademarks of Sony Corporation.

■ Viewing the picture in wide mode

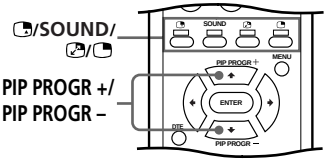
When receiving a wide-mode (16:9) signal, the picture will appear “squeezed” (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.



Select	To
“ON”	view the picture in wide-mode (16:9).
“OFF”	cancel wide-mode (16:9).

■ Watching Picture-in-Picture (PIP)

With the PIP feature, you can display two different TV programs or video input at the same time by using the ◔ button.



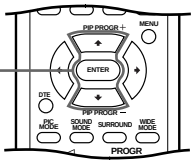
To	Press
Display a sub screen	◔. To cancel the sub screen, press the button again.
Change a program number in the sub screen	PIP PROGR + or PIP PROGR –.
Select a video input in the sub screen	◔.
Swap pictures between the main and sub screens	◔.
Swap sound between the main and sub screens A "♪" symbol will appear next to the program number or video input display to indicate which screen you are hearing.	SOUND.

Note

- The picture and sound from the ⇨ (monitor output) terminals will always be from the main screen, even when you select the sub screen sound by pressing SOUND (see page 31).

■ Selecting a TV program using PIP

You can select your desired TV program directly from the PIP sub screen by using PIP PROGR +/– buttons.

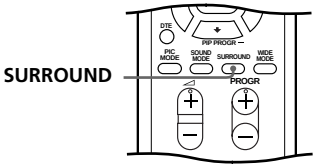


1 Press PIP PROGR +/– until the desired program appears in the sub screen.

2 Press ENTER to change the sub screen program to the main screen.

■ Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



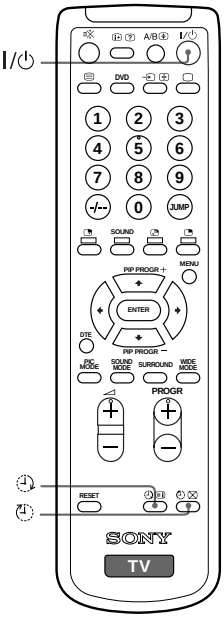
Select	To
"TruSurround"	listen to the surround sound that spreads out to the rear of a room.
"SIMULATED"	listen to monaural sound with a stereo-like effect.
"OFF"	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

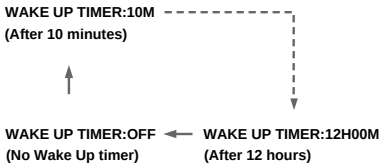
■ Setting the timers

You can set your TV to turn on and off automatically by using the WAKE UP and SLEEP timers respectively.



Setting the Wake Up timer

1 Press 🕘 until the desired period of time appears on the screen.



The Wake Up timer starts immediately after you have set it.

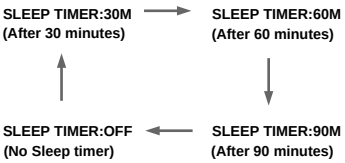
2 Select the program number or video input you want to wake up to.

3 Press **I**/⏻, or set the Sleep timer if you want the TV to turn off automatically.

The 🕘 indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press 🕘 until the desired period of time appears on the screen.



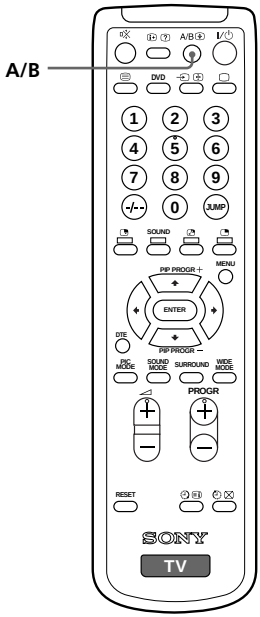
The Sleep timer starts immediately after you have set it.

Notes

- You can also cancel the Wake Up and Sleep timers by pressing ⏻ on the TV to turn off the TV.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

■ Enjoying stereo or bilingual programs

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems by using the A/B button.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound)
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound)

When receiving an A2 program

Broadcasting	On-screen display (Selected sound)
A2 stereo	STEREO (Stereo sound) → MONO (Regular sound)
A2 bilingual	MAIN (Main sound) → SUB (Sub sound)

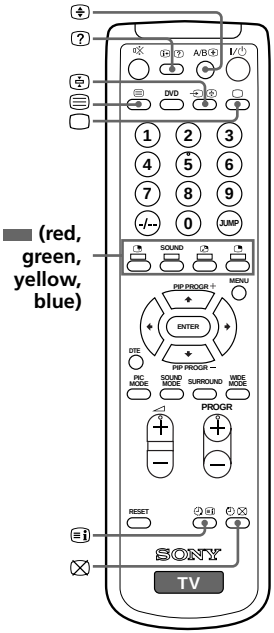
Notes

- If the stereo sound is noisy when receiving a stereo program, select "MONO". The sound becomes monaural, but the noise is reduced.
- If the sound is distorted when receiving a monaural program through ⅂Γ (antenna input), press A/B repeatedly until "MONO" appears on the screen. To cancel the monaural sound setting, press A/B again until "AUTO" appears on the screen.
- Your TV can only receive monaural sound when you select the PIP sub screen sound by pressing SOUND (see page 13).

■ Viewing Teletext

Some TV stations broadcast an information service called Teletext which allows you to receive various information, such as stock market reports and news.

You can use the buttons on the remote to view Teletext.



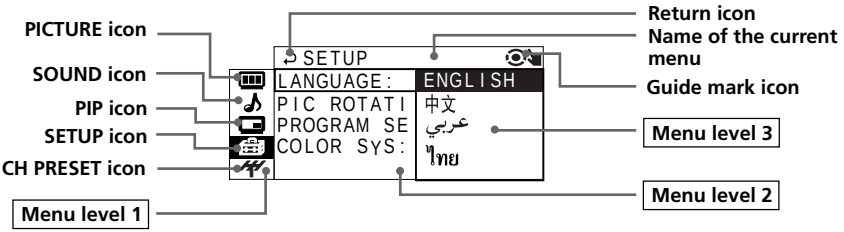
To	Do this
display a Teletext page on the TV picture	Press ☰. Each time you press ☰, the screen changes as follows: Teletext → Teletext and TV → TV. If there is no Teletext broadcast, "100" is displayed at the top left corner of the screen.
check the contents of a Teletext service	Press ⓘ. An overview of the Teletext contents, including page numbers, appears on the screen.
select a Teletext page	Press the number buttons to enter the three-digit page number of the desired Teletext page. If you make a mistake, reenter the correct page number. To access the next or previous page, press PROGR +/–.
hold (pause) a Teletext display	Press ⊕ to display the symbol "⊕" at the top left corner of the screen. To resume normal Teletext viewing, press ⊕ or ☰.
reveal concealed information (e.g., an answer to a quiz)	Press ?. To conceal the information, press the button again.
enlarge the Teletext display	Press ⊕. Each time you press ⊕, the Teletext display changes as follows: Enlarge upper half → Enlarge lower half → Normal size.
stand by for a Teletext page while watching a TV program	1 Enter the Teletext page number that you want to refer to, then press ⊠. 2 When the page number is displayed, press ☰ to show the text.
select a FASTEXT menu or the colored boxes	Press ■ (red, green, yellow and blue) that corresponds to the desired menu or page number.
turn off Teletext	Press ▭.

Note

- The FASTEXT feature can be used only when the FASTEXT broadcast is available.

■ Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



Level 1	Level 2	Level 3/Function	Page
"PICTURE"	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "SOFT" → "PERSONAL" → "ADJUST"	21
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"DTE"	Optimize the picture contrast: "ON" → "OFF"	
	"WIDE MODE"	Change the picture size. "ON" → "OFF"	
	"GAME MODE"	Adjust the picture settings for video games. "ON" → "OFF"	
"SOUND"	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	23
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" →"OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically: "ON" → "OFF"	
"PIP"	"POSITION"	Change the position of the sub screen.	25
	"PIP"	Display a sub screen within the main picture: "ON" → "OFF"	
	"SWAP"	Exchange pictures between main screen and sub screen.	

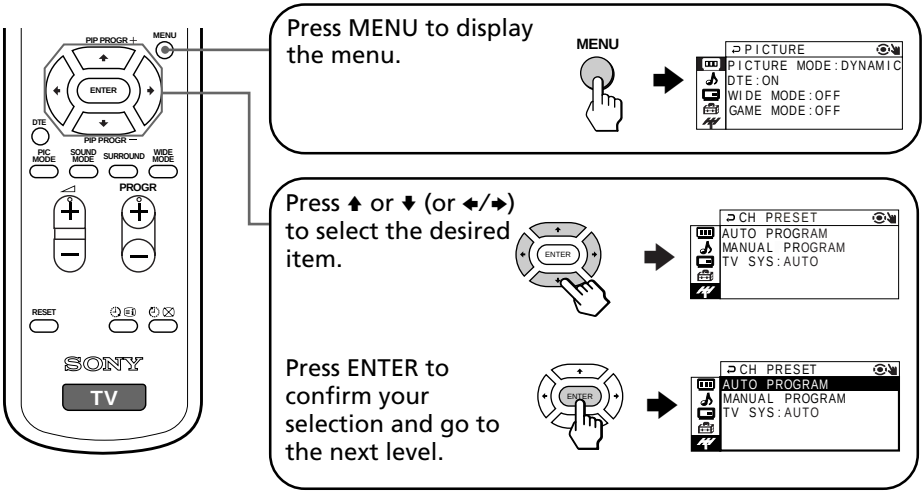
Level 1	Level 2	Level 3/Function	Page
"SETUP"	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文"(Chinese) → "عربي"(Arabic) → "ไทย"(Thai)	26
	"PIC ROTATION"	Adjust the picture position.	
	"PROGRAM SETUP"	Adjust each program number settings.	
	"COLOR SYS"	Select the color system: "AUTO" →" PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"	
"CH PRESET"	"AUTO PROGRAM"	Preset channels automatically.	28
	"MANUAL PROGRAM"	Preset channels manually.	
	"TV SYS"	Select the TV system: "B/G" → "I" → "D/K" → "M"	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

continue

continued

How to use the menu



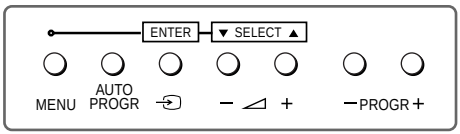
Other menu operations

To	Press
Adjust the setting value	↑, ↓, ← or →.
Move to the next/previous menu level	← or →.
Cancel the menu	MENU.

Tips

- If you want to exit from Menu level 2 to Menu level 1, press ↑ or ↓ until the return icon (⮌) is highlighted, then press ENTER.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, ENTER, and SELECT ▼/▲ buttons on the TV can also be used for the operations above.

Front of TV

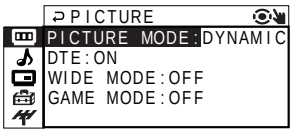


■ Changing the “PICTURE” setting

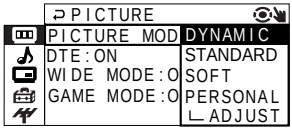
The “PICTURE” menu allows you to adjust the picture settings.

1 Press MENU.

2 Make sure the “PICTURE” icon ( ) is selected, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “PICTURE MODE”), then press ENTER.



Select	To
“PICTURE MODE”	choose either “DYNAMIC”, “STANDARD”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“DTE”	optimize the picture contrast. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“WIDE MODE”	choose either “ON” or “OFF” (see page 12).
“GAME MODE”	adjust the picture setting that is suitable to view video games. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted picture settings from the “ADJUST” option (see page 22).

Notes

- “GAME MODE” is available only when receiving signals through (video input), (S video input), or (component video input).
- The DTE mode is not selectable when “GAME MODE” is turned “ON”.

continue

continued

Adjusting the "ADJUST" items under "PICTURE MODE"

1 Press ↑ or ↓ to select the desired item (e.g.,"COLOR"), then press ENTER.

2 Adjust the value according to the following table, then press ENTER.

For	Press ↓ or ← to	Press ↑ or → to
"PICTURE"	decrease picture contrast.	increase picture contrast.
"COLOR"	decrease color intensity.	increase color intensity.
"BRIGHT"	darken the picture.	brighten the picture.
"HUE"	increase red picture tones.	increase green picture tones.
"SHARP"	soften the picture.	sharpen the picture.

3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select "PERSONAL".

Notes

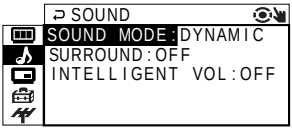
- "HUE" can be adjusted for the NTSC color system only.
- Reducing sharpness ("SHARP") can also reduce picture noise.

■ Changing the “SOUND” setting

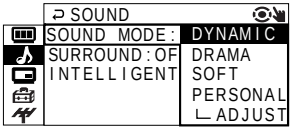
The “SOUND” menu allows you to adjust the sound settings.

1 Press MENU.

2 Press ↑ or ↓ to select the “SOUND” icon (♪), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SOUND MODE”), then press ENTER.



Select	To
“SOUND MODE”	choose either “DYNAMIC”, “DRAMA”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“SURROUND”	choose either “TruSurround”, “SIMULATED” or “OFF” (see page 14).
“INTELLIGENT VOL”	adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

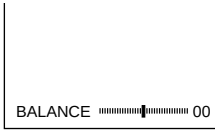
* When the “PERSONAL” mode is selected, you can receive the last adjusted sound settings from the “ADJUST” option (see page 24).

continue

continued

Adjusting the "ADJUST" items under "SOUND MODE"

1 Press ↑ or ↓ to select the desired item (e.g., "BALANCE"), then press ENTER.



2 Adjust the value according to the following table, then press ENTER .

For	Press ↓ or ← to	Press ↑ or → to
"BASS"	decrease the bass.	increase the bass.
"TREBLE"	decrease the treble.	increase the treble.
"BALANCE"	increase the left speaker's volume.	increase the right speaker's volume.
"BBE"	select "HIGH" for higher enhancement of sound clarity; select "LOW" for lower enhancement of sound clarity; select "OFF" to cancel BBE sound.	

3 Repeat the above steps to adjust other items.

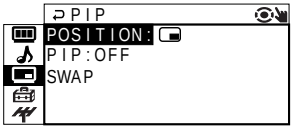
The adjusted settings will be received when you select "PERSONAL".

■ Changing the Picture-in-Picture ("PIP") setting

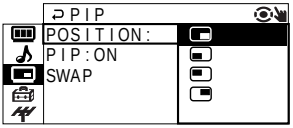
The "PIP" menu allows you to display a sub screen, change the sub screen position and exchange pictures between the main and sub screens.

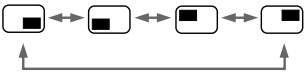
1 Press MENU.

2 Press ↑ or ↓ to select the "PIP" icon (), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "POSITION"), then press ENTER.



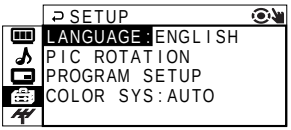
Select	To
"POSITION"	change the position of the sub screen. Press ↑ or ↓ to select the desired position, then press ENTER . 
"PIP"	display a sub screen. Press ↑ or ↓ to select "ON", then press ENTER . To cancel, press or select "OFF", then press ENTER .
"SWAP"	exchange pictures between the main screen and sub screen.

■ Changing the “SETUP” setting

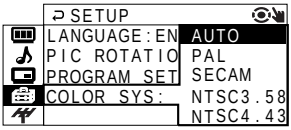
The “SETUP” menu allows you to change the menu language, adjust the picture position, set up your program numbers and select the color system.

1 Press MENU.

2 Press ↑ or ↓ to select the “SETUP” icon (), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “COLOR SYS”), then press ENTER.

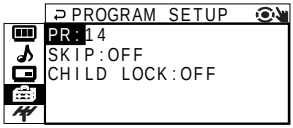


Select	To
“LANGUAGE”	change the menu language. Press ↑ or ↓ to select either “ENGLISH”, “中文” (Chinese), “ عربي ” (Arabic), or “ ไทย ” (Thai), then press ENTER. The selected menu language appears.
“PIC ROTATION”	adjust the picture position when it is not aligned with the TV screen. Press ↑ , → , ↓ or ← to adjust the picture position, then press ENTER.
“PROGRAM SETUP”	adjust each channel settings (see **Adjusting each program number settings (“PROGRAM SETUP”)** on page 27).
“COLOR SYS”	select the color system. Normally, set this to “AUTO”.

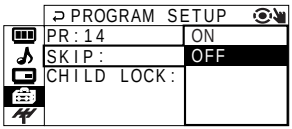
Adjusting each program number settings (“PROGRAM SETUP”)

1 Select “PROGRAM SETUP” from the “SETUP” menu.

2 Select “PR” and press ENTER. Press ↑ or ↓ to select the desired program number you want to adjust, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “SKIP”), then press ENTER.



Select	To
“PR”	select the desired program number.
“SKIP”	skip unwanted or unused program number. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“CHILD LOCK”	prevent children from watching this selected program number. Press ↑ or ↓ to select “ON”, then press ENTER. The lock symbol (🔒) appears on the screen. To cancel, select “OFF”, then press ENTER. If you preset a locked program number, that program number will be unlocked automatically.

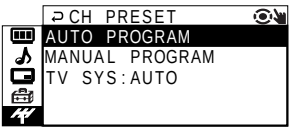
4 To continue adjusting other program numbers, press ↑ or ↓ to select “PR”, then repeat step 2 and 3.

■ Changing the Channel Preset ("CH PRESET") setting

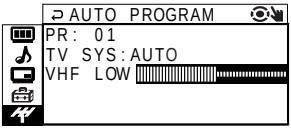
The "CH PRESET" menu allows you to preset channels automatically, manually preset channels and select the TV system.

1 Press MENU.

2 Press ↑ or ↓ to select the "CH PRESET" icon (), then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., "AUTO PROGRAM"), then press ENTER.

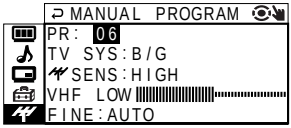


Select	To
"AUTO PROGRAM"	preset channels automatically.
"MANUAL PROGRAM"	manually preset desired channels and channels that cannot be preset automatically (see **Presetting channels manually** on page 29).
"TV SYS"	select the TV system. Press ↑ or ↓ to select either "B/G", "I", "D/K" or "M", then press ENTER.

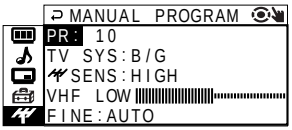
Presetting channels manually

1 After selecting "MANUAL PROGRAM", select the program number to which you want to preset a channel.

(1) Make sure "PR" is selected, then press ENTER.

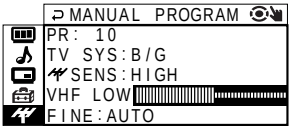


(2) Press ↑ or ↓ until the program number you want to preset (e.g., program number "10") appears on the menu, then press ENTER.

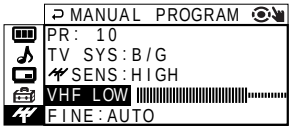


2 Select the desired channel.

(1) Make sure either "VHF LOW", "VHF HIGH", or "UHF" is selected, then press ENTER.

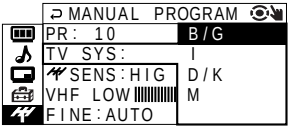


(2) Press ↑ or ↓ until the desired channel's broadcast appears on the TV screen, then press ENTER.

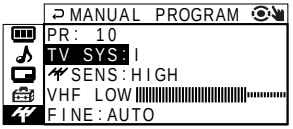


3 If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ↑ or ↓ to select "TV SYS", then press ENTER.



(2) Press ↑ or ↓ until the sound becomes normal, then press ENTER.



Tip

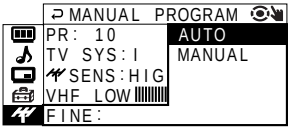
- You can also select the program number with the PROGR +/– or number buttons.

continue

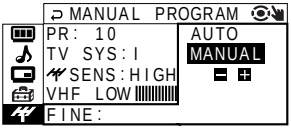
continued

4 If you are not satisfied with the picture and sound quality, you may be able to improve them by using the "FINE" tuning feature.

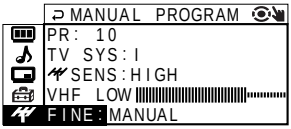
(1) Press ↑ or ↓ to select "FINE", then press ENTER.



(2) Press ↑ or ↓ to select "MANUAL", then press ENTER.

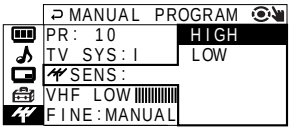


(3) Press ↑, ↓, ← or → until the picture and sound quality are optimal, then press ENTER.
The + or – icon on the menu flashes while tuning.

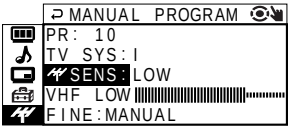


5 If the TV signal is too strong and the picture is distorted, you can adjust the TV reception sensitivity.

(1) Press ↑ or ↓ to select "SENS", then press ENTER.



(2) Press ↑ or ↓ to select "LOW", then press ENTER.

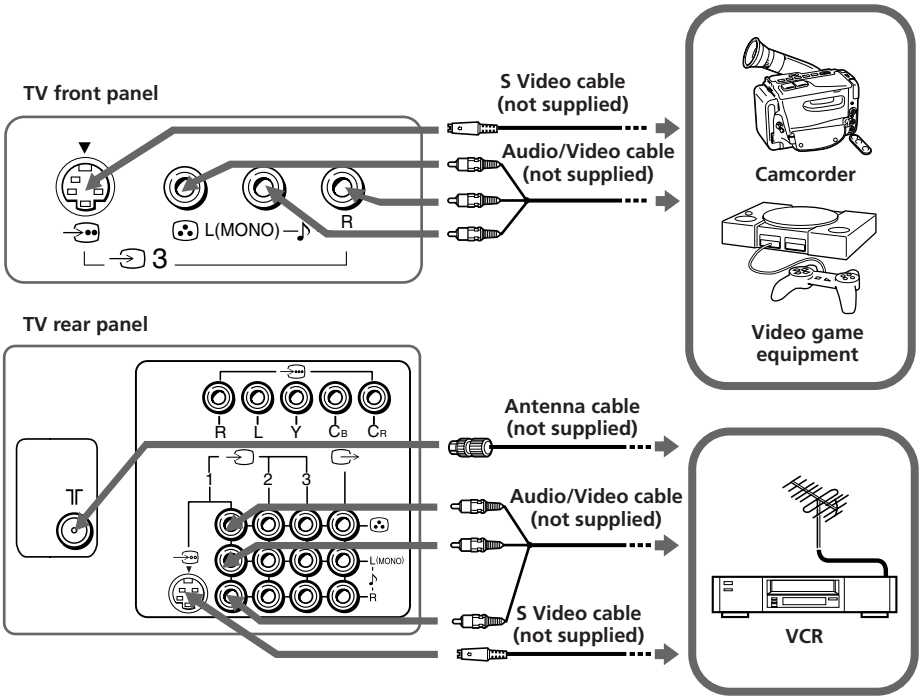


Note

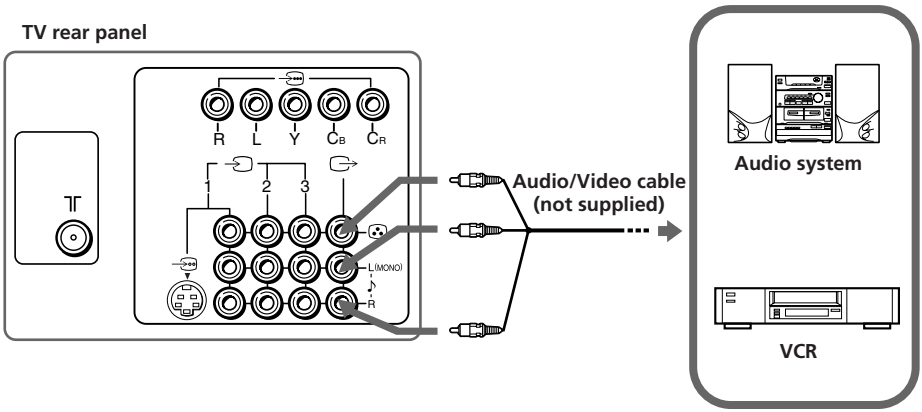
- If you connect a VCR to ⅂ (antenna input), preset the signal output from the VCR to the program number 0 on the TV.

■ Connecting optional components

Connecting to the video input terminal ( )



Connecting to the monitor output terminal ( )



continue

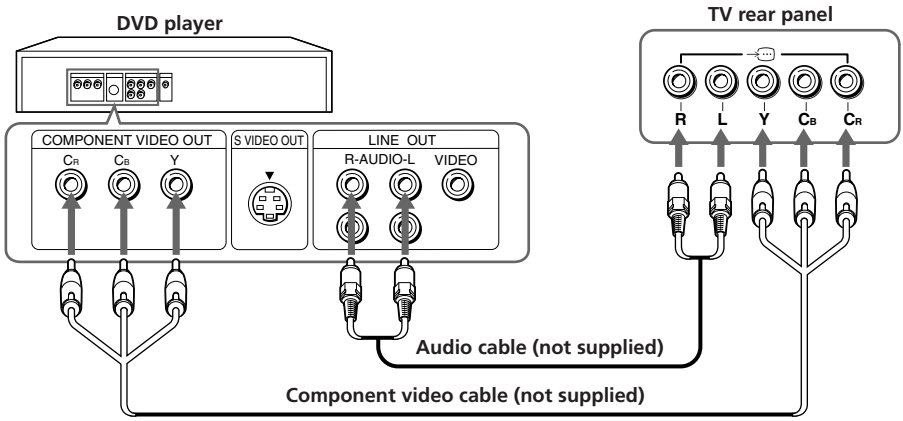
continued

Connecting a DVD player to the component video input terminal ( )

1 Using an audio cable, connect R and L under (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.

2 Using a component video cable, connect Y, C_B, and C_R under (component video input) on your TV to the COMPONENT VIDEO OUT Y, C_B, and C_R output connectors on your DVD player.

3 Press DVD on the remote to watch the (component video input) and "DVD" will appear on your screen.



Notes

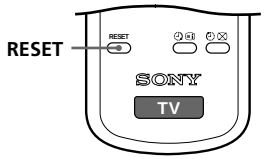
- If your DVD player can ouput interlace and progressive mode signals, select the interlace output when connecting to (component video input) on your TV. Your TV can receive either 525i/60Hz or 625i/50Hz interlace signals.
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
C_B (blue)	C_B, P_B, C_b or B-Y
C_R (red)	C_R, P_R, C_r or R-Y

- When both (S video) and (video) for 1 or 3 are connected at the same time, (S video) is automatically selected. To view (video), disconnect the S video cable.
- If you select "DVD" on your TV screen, the signal from the (monitor output) jacks will not be output properly. This does not indicate a malfunction.

■ Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

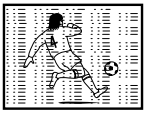


Reset function

Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with "RESET" displayed on your TV screen for about 10 seconds.

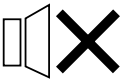
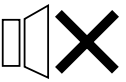
Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

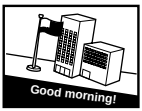
Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture  **Noisy sound**	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	31
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Channel presetting is inappropriate or incomplete.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM" to preset the channel again.	29
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture **Noisy sound**	• Broadcast signals are too strong.	• Display the "CH PRESET" menu and select "MANUAL PROGRAM". Then, select "SENS: LOW".	30
		• Turn off or disconnect the booster if it is in use.	–
Good picture **Noisy sound**	• The TV system setting is inappropriate.	• Display the "CH PRESET" menu and select the appropriate TV system ("TV SYS").	29
	• PIP sound is selected when PIP is displayed.	• Press SOUND or .	13

continue

continued

Symptom	Possible cause	Solutions	Page
No picture **No sound** 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and VCR connections.	31
	• The TV is not turned on.	• Press I/⏻ (power). • Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8
Good picture **No sound** 	• The volume level is too low.	• Press + to increase the volume level.	9
	• The sound is muted. • PIP sound is selected when PIP is displayed.	• Press 🔇 to cancel the muting. • Press SOUND or ◔.	9 13
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Check the antenna setup. Contact a Sony dealer for advice.	– –
Double images or "ghosts" 	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna. • Use the fine tuning ("FINE") function.	– 30
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color 	• The color level setting is too low.	• Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	22
	• The color system setting is inappropriate.	• Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	26
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–

Symptom	Possible cause	Solutions	Page
Picture slant 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	– 26
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.	–
TV cannot receive stereo broadcast sound.	• The stereo reception setting is inappropriate.	• Press A/B until "AUTO" appears on the screen.	16
or	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and on the wall.	31
Stereo broadcast sound switches on and off or is distorted.	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
"100" appears at the top of the screen and there is no Teletext display.	• The channel carries no Teletext broadcast.	—	17
Teletext display is incomplete (snowy picture or double images).	• Connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR, and at the wall.	31
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Signal transmission is too low.	• Try using a booster. • Use the fine tuning ("FINE") function.	– 30
The ⏻ indicator on your TV flashes red several times between three-second intervals.	• Your TV may need servicing.	• Count the number of times the ⏻ (standby) indicator flashes. Press ⏻ (main power) to turn off your TV. Contact your nearest Sony service center.	–

continue

continued

Symptom	Possible cause	Solutions	Page
Cannot play shooting games.	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For detail, see the instruction manual supplied with the video game software.	—	–
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.	—	–
A small "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

Specifications

	KV-AR34M66	KV-AR29M66	KV-AR25M66	Note
Power requirements	110 – 240 V AC, 50/60 Hz			
Power consumption (W)	Indicated on the rear of the TV			
Television system	B/G, I, D/K, M			
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43			
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual B/G			
Teletext language	English, Arabic, French			
Channel coverage **B/G**	VHF : E2 to E12 UHF : E21 to E69 CATV : S01 to S03, S1 to S41			
I	UHF : B21 to B68 CATV : S01 to S03, S1 to S41			
D/K	VHF : C1 to C12, R1 to R12 UHF : C13 to C57, R21 to R60 CATV : S01 to S03, S1 to S41, Z1 to Z39			
M	VHF : A2 to A13 UHF : A14 to A79 CATV : A-8 to A-2, A to W+4, W+6 to W+84			
(Antenna)	75-ohm external terminal			
Audio output (Speaker)	8W + 8W			
Number of terminal **(Video)**	Input: 4* Output: 1	Phono jacks; 1 Vp-p, 75 ohms		* Three input lines available
(Audio)	Input: 4* Output: 1	Phono jacks; 500 mVrms		* Three input lines available
(S Video)	Input: 2	Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms		
(Component Video)	Input: 1	Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative C_B: 0.7 Vp-p, 75 ohms C_R 0.7 Vp-p, 75 ohms Audio: 500 mVrms		
(Headphone)	Output: 1	Stereo minijack		
Picture tube	34 in.	29 in.	25 in.	
Tube size (cm)	86	72	64	Measured diagonally
Screen size (cm)	80	68	60	Measured diagonally
Dimensions (w/h/d, mm)	896 × 686 × 569	765 × 578 × 502	650 × 517 × 496	
Mass (kg)	79	49	39	

Design and specifications are subject to change without notice.

http://www.sony.net/
Sony Corporation

SONY

4-090-833-**E1** (1)

Trinitron Color TV

Operating Instructions

GB

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

FD Trinitron
WEGA

KV-AR34
KV-AR29
KV-AR25

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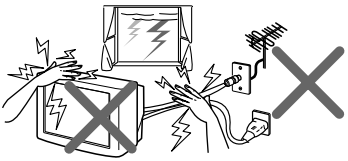
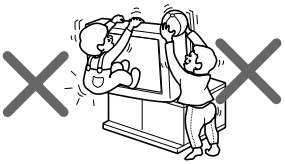
N90

WARNING

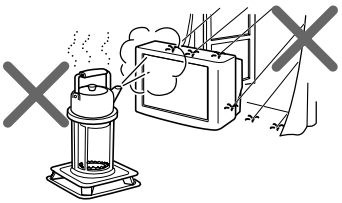
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 110 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.



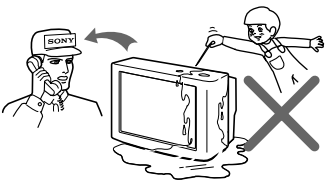
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



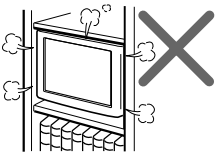
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



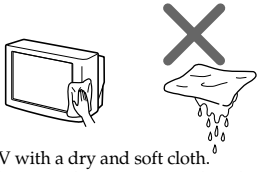
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



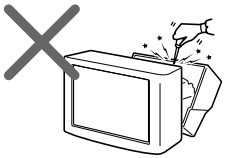
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



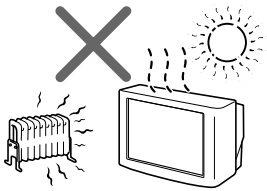
Do not block the ventilation openings of the TV.
Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



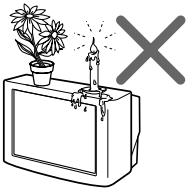
Clean the TV with a dry and soft cloth.
Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



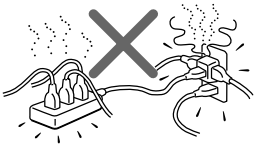
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



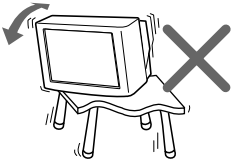
Your TV is recommended for home use only.
Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



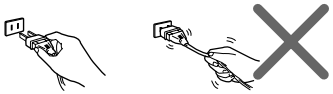
Do not place any objects on the TV.



Do not plug in too many appliances to the same power socket. Do not damage the power cord.



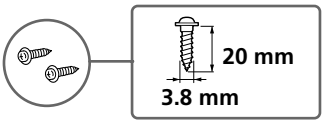
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

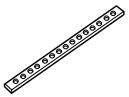
■ Securing the TV

To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.

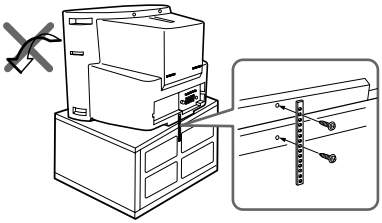


screws

clamps

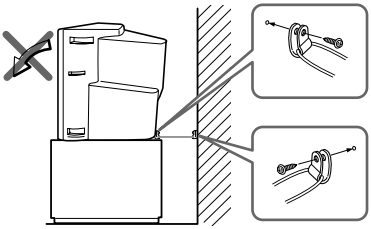


band



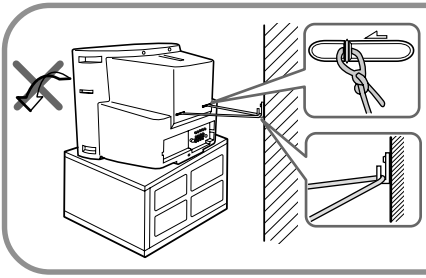
Screw the band to the TV stand and to the provided hole at the rear of your TV.

or



(1) Put a cord or chain through the clamps.
(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.
(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

Table of Contents

Installation

Getting Started **6**
Setting up your TV ("INITIAL SETUP") **7**

Overview of Controls

TV front and rear panels **8**
Remote control **9**

Advanced Operations

Selecting the picture and sound modes **11**
Viewing the picture in wide mode .. **12**
Listening with surround sound **12**
Setting the timers **13**
Enjoying stereo or bilingual programs **14**

Menu Adjustment

Introducing the menu system **15**
Changing the "PICTURE" setting ... **18**
Changing the "SOUND" setting **20**
Changing the "SETUP" setting **22**
Changing the Channel Preset ("CH PRESET") setting **24**

Additional Information

Connecting optional components ... **25**
Troubleshooting **27**
Specifications **30**

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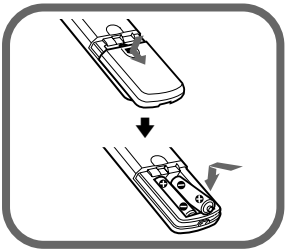
■ Getting Started

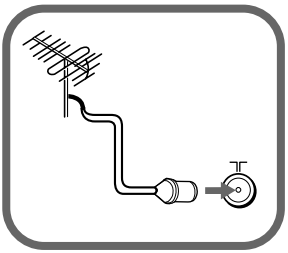


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

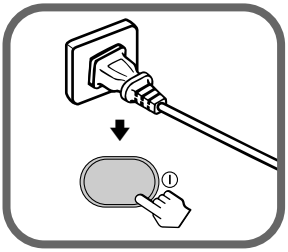


Step 2

Connect the antenna cable (not supplied) to ⅂⌐ (antenna input) at the rear of the TV.

Tip

- You can also connect your TV to other optional components (see page 25).



Step 3

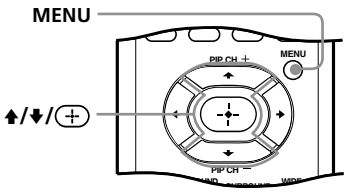
Plug in the power cord, then press ⏻ on the TV to turn it on.

Step 4

Set up the TV by following the instructions of the "原始設定" ("INITIAL SETUP") menu (see page 7).

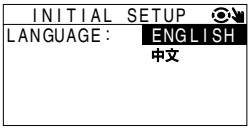
■ Setting up your TV ("INITIAL SETUP")

When you turn on your TV for the first time, the "INITIAL SETUP" menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



1 Press ↑ or ↓ to select the desired menu language (e.g.,"ENGLISH"), then press ⊕.

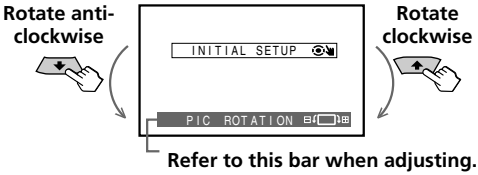
The selected menu language appears.



2 If the "PIC ROTATION" bar is slanted, press ↑ or ↓ to adjust it, then press ⊕.

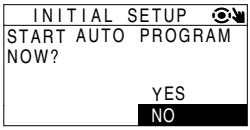
If no adjustment is necessary, then press ⊕.

The ⊞ or ⊟ icon on the screen flashes while adjusting.



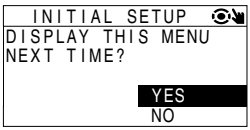
3 Press ↑ or ↓ to select "YES", then press ⊕ to preset the channels automatically (see page 24).

To skip automatic channel presetting, select "NO", then press ⊕.



4 Press ↑ or ↓ to select "NO", then press ⊕. The "INITIAL SETUP" menu will not appear again the next time you turn on the TV by pressing ⏻.

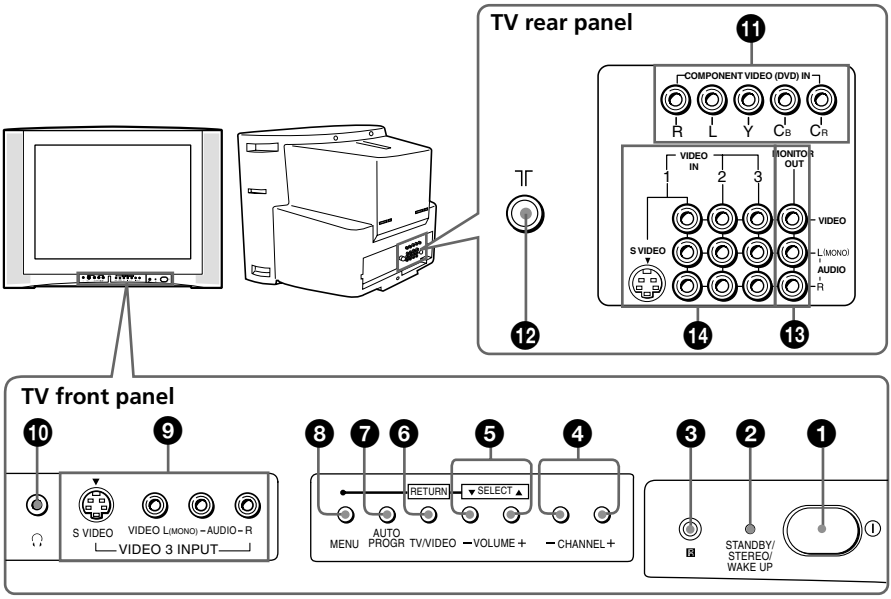
To allow this menu to appear again, select "YES", then press ⊕.



Tips

- You can immediately go to the end of the "INITIAL SETUP" menu by pressing MENU.
- You can also set up your TV using the menu system (see page 15).

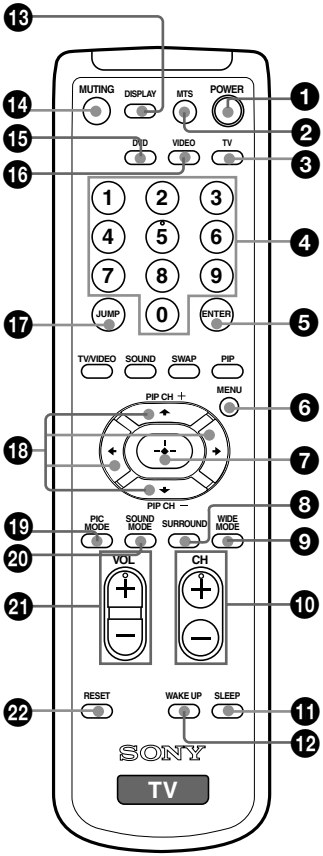
■ TV front and rear panels



Button/Terminal	Function	Page
❶ ⏻	Turn off or turn on the TV.	6
❷ STANDBY	Standby indicator.	–
❷ WAKE UP	Wake Up indicator.	13
❷ STEREO	Stereo/bilingual indicator.	14
❸	Remote control sensor.	–
❹ CHANNEL +/–	Select channel number.	–
❺ VOLUME +/–	Adjust volume.	–
❻ TV/VIDEO	Select TV or video input.	–
❼ AUTO PROGR	Preset channels automatically.	–
Menu operations		
❺ SELECT ▼/▲	Select and adjust items.	17
❻ RETURN	Confirm selected items.	17
❽ MENU	Display or cancel the menu.	17
❾ VIDEO 3 INPUT	Video input terminal 3.	25
❿ 🎧	Headphone jack.	–
⓫ COMPONENT VIDEO (DVD) IN	Component video (DVD) input terminal.	26
⓬ ⊤	Antenna input terminal.	25
⓭ MONITOR OUT	Monitor output terminal.	25
⓮ VIDEO IN 1, 2, 3	Video input terminal 1, 2, 3.	25

Remote control

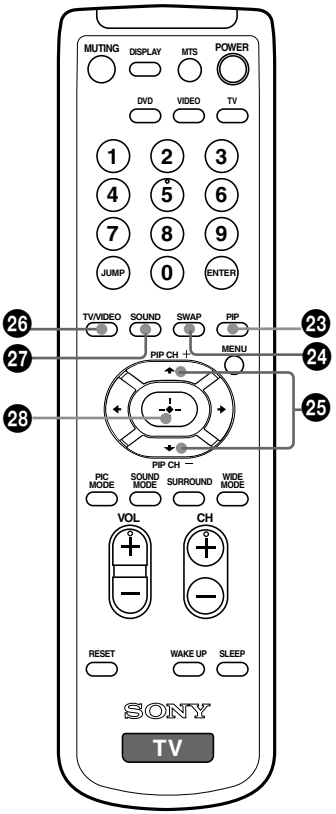
If you prefer Chinese labels, you may detach the back of the supplied sticker and attach it on your remote.



Button	Function	Page
❶ POWER	Turn off temporarily or turn on the TV.	–
❷ MTS	Select stereo/bilingual mode.	14
❸ TV	Display the TV program.	–
❹ 0-9	Input numbers.	–
❺ ENTER	Confirm input numbers.	–
❽ SURROUND	Select surround mode.	12
❾ WIDE MODE	Select wide-mode (16:9).	12
❿ CH +/–	Select channel number.	–
⓭ DISPLAY	Display on-screen information.	–
⓮ MUTING	Mute the sound.	–
⓯ DVD	Select component video input.	26
⓰ VIDEO	Select TV or video input.	25
⓱ JUMP	Jump to previous channel number	–
⓳ PIC MODE	Select picture mode.	11
⓴ SOUND MODE	Select sound mode.	11
㉑ VOL +/–	Adjust volume.	–
㉒ RESET	Set TV to factory setting.	27
Timer operations		
⓫ SLEEP	Set TV to turn off automatically.	13
⓬ WAKE UP	Set TV to turn on automatically.	13
Menu operations		
❻ MENU	Display the menu.	17
❼ ⊕	Confirm selected items.	17
⓲ ↑, ↓, ←, →	Select and adjust items.	17

continue

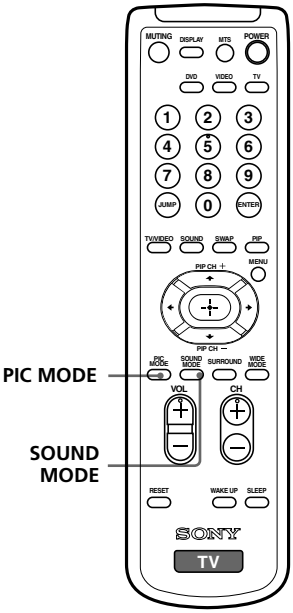
continued



Button	Function	Page
PIP operations (yellow label)		
23 PIP	Not function for your TV.	–
24 SWAP		
25 PIP CH +/–		
26 TV/VIDEO		
27 SOUND		
28 ⊕		

■ Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the “PERSONAL” option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
“DYNAMIC”	view high contrast pictures.
“STANDARD”	view normal pictures.
“SOFT”	view mild pictures.
“PERSONAL”	receive the last adjusted picture setting from the “ADJUST” option in the “PICTURE” menu (see page 19).

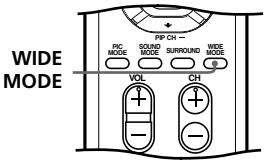
Selecting the sound mode

Press SOUND MODE to select the desired sound mode.

Select	To
“♪ DYNAMIC”	listen to dynamic and clear sound that emphasizes both the low and high tones.
“♪ DRAMA”	listen to sound that emphasizes voice and high tones.
“♪ SOFT”	listen to soft sound.
“♪ PERSONAL”	receive the last adjusted sound setting from the “ADJUST” option in the “SOUND” menu (see page 21).

■ Viewing the picture in wide mode

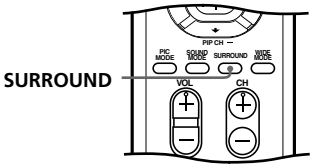
When receiving a wide-mode (16:9) signal, the picture will appear “squeezed” (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.



Select	To
“ON”	view the picture in wide-mode (16:9).
“OFF”	cancel wide-mode (16:9).

■ Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



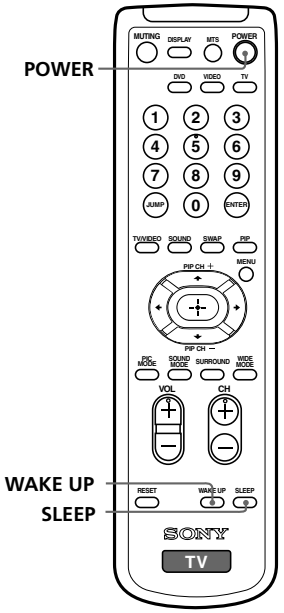
Select	To
“TruSurround”	listen to the surround sound that spreads out to the rear of a room.
“SIMULATED”	listen to monaural sound with a stereo-like effect.
“OFF”	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

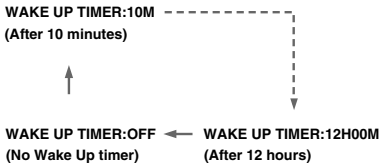
■ Setting the timers

You can set your TV to turn on and off automatically by using the Wake up timer and Sleep timer respectively.



Setting the Wake Up timer

1 Press WAKE UP until the desired period of time appears on the screen.



The Wake Up timer starts immediately after you have set it.

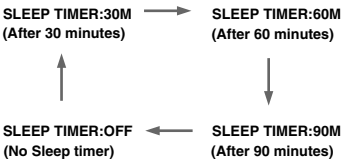
2 Select the channel number or video input you want to wake up to.

3 Press POWER, or set the Sleep timer if you want the TV to turn off automatically.

The WAKE UP indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press SLEEP until the desired period of time appears on the screen.



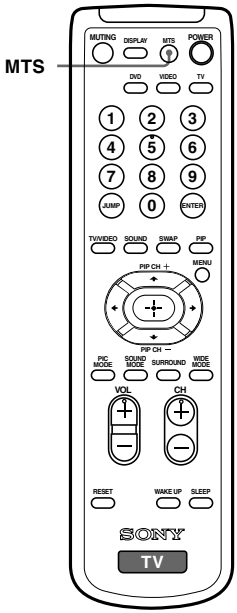
The Sleep timer starts immediately after you have set it.

Notes

- You can also cancel the Wake Up and Sleep timers by pressing ⏻ on the TV to turn off the TV.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

■ Enjoying stereo or bilingual programs

You can enjoy stereo sound or bilingual programs of MTS stereo system by using MTS button.



Select stereo or bilingual programs

Press MTS until you receive the sound you want.

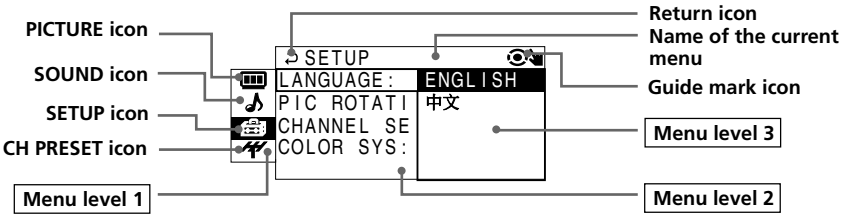
Select	To
"STEREO"	Listen to stereo broadcast sound.
"SAP"	Listen to SAP broadcast sound.
"MONO"	Listen to monaural sound.

Notes

- When select SAP, non-SAP program sound will be same as STEREO mode sound.
- If the stereo signal is very weak, the STEREO broadcast sound may become noisy. To reduce the noise select "MONO".

■ Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



Level 1	Level 2	Level 3/Function	Page
"PICTURE"	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "SOFT" → "PERSONAL" → "ADJUST"	18
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"WIDE MODE"	Change the picture size. "ON" → "OFF"	
	"INTELLIGENT PIC"	Optimize the picture quality: "ON" → "OFF"	
"SOUND"	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	20
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" →"OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically. "ON" → "OFF"	

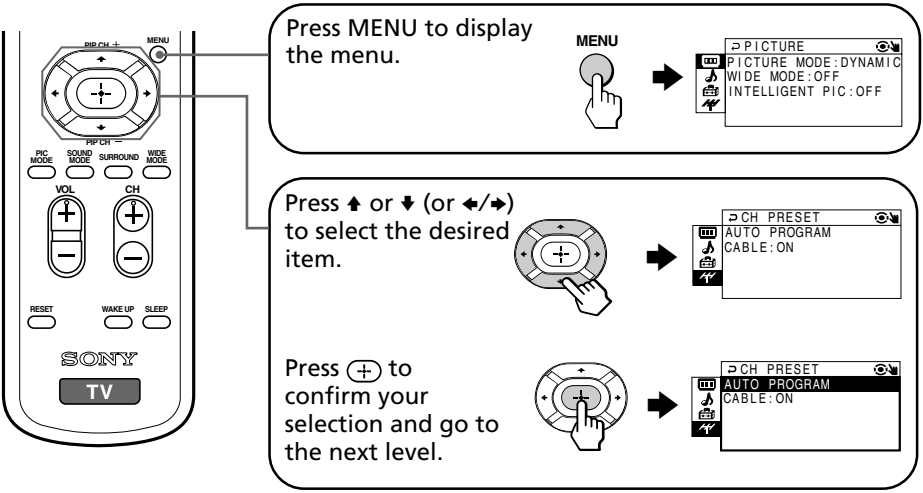
continue

continued

Level 1	Level 2	Level 3/Function	Page
"SETUP"	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文"(Chinese)	22
	"PIC ROTATION"	Adjust the picture position.	
	"CHANNEL SETUP"	Adjust each channel number settings.	
	"COLOR SYS"	Select the color system (for video input only): "AUTO" →" PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"	
"CH PRESET"	"AUTO PROGRAM"	Preset channels automatically.	24
	"CABLE"	Watch cable TV programs: "ON" → "OFF"	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

How to use the menu



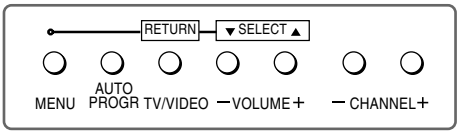
Other menu operations

To	Press
Adjust the setting value	↑, ↓, ← or →.
Move to the next/previous menu level	← or →.
Cancel the menu	MENU.

Tips

- If you want to exit from Menu level 2 to Menu level 1, press ↑ or ↓ until the return icon (⮌) is highlighted, then press ⊕.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, RETURN, and SELECT ▼/▲ buttons on the TV can also be used for the operations above.

Front of TV

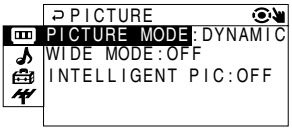


■ Changing the “PICTURE” setting

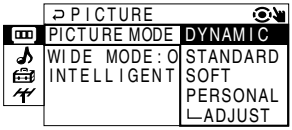
The “PICTURE” menu allows you to adjust the picture settings.

1 Press MENU.

2 Make sure the “PICTURE” icon (▣) is selected, then press ⊕.



3 Press ↑ or ↓ to select the desired item (e.g., “PICTURE MODE”), then press ⊕.



Select	To
“PICTURE MODE”	choose either “DYNAMIC”, “STANDARD”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“WIDE MODE”	choose either “ON” or “OFF” (see page 12).
“INTELLIGENT PIC”	optimize picture quality. Press ↑ or ↓ to select “ON”, then press ⊕. To cancel, select “OFF”, then press ⊕.

* When the “PERSONAL” mode is selected, you can receive the last adjusted picture settings from the “ADJUST” option (see page 19).

Adjusting the "ADJUST" items under "PICTURE MODE"

1 Press ↑ or ↓ to select the desired item (e.g.,"COLOR"), then press ⊕.

2 Adjust the value according to the following table, then press ⊕.

For	Press ↓ or ← to	Press ↑ or → to
"PICTURE"	decrease picture contrast.	increase picture contrast.
"COLOR"	decrease color intensity.	increase color intensity.
"BRIGHT"	darken the picture.	brighten the picture.
"HUE"	increase red picture tones.	increase green picture tones.
"SHARP"	soften the picture.	sharpen the picture.

3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select "PERSONAL".

Notes

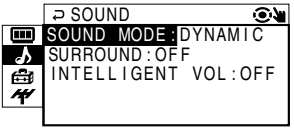
- "HUE" can be adjusted for the NTSC color system only.
- Reducing sharpness ("SHARP") can also reduce picture noise.

■ Changing the “SOUND” setting

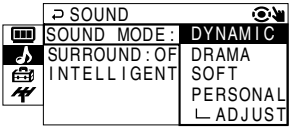
The “SOUND” menu allows you to adjust the sound settings.

1 Press MENU.

2 Press ↑ or ↓ to select the “SOUND” icon (♪), then press ⊕.



3 Press ↑ or ↓ to select the desired item (e.g., “SOUND MODE”), then press ⊕.

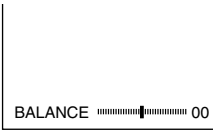


Select	To
“SOUND MODE”	choose either “DYNAMIC”, “DRAMA”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“SURROUND”	choose either “TruSurround”, “SIMULATED” or “OFF” (see page 12).
“INTELLIGENT VOL”	adjust the volume of all channel numbers and video inputs automatically. Press ↑ or ↓ to select “ON”, then press ⊕. To cancel, select “OFF”, then press ⊕.

* When the “PERSONAL” mode is selected, you can receive the last adjusted sound settings from the “ADJUST” option (see page 21).

Adjusting the "ADJUST" items under "SOUND MODE"

1 Press ↑ or ↓ to select the desired item (e.g., "BALANCE"), then press ⊕.



2 Adjust the value according to the following table, then press ⊕.

For	Press ↓ or ← to	Press ↑ or → to
"BASS"	decrease the bass.	increase the bass.
"TREBLE"	decrease the treble.	increase the treble.
"BALANCE"	increase the left speaker's volume.	increase the right speaker's volume.
"BBE"	select "HIGH" for higher enhancement of sound clarity; select "LOW" for lower enhancement of sound clarity; select "OFF" to cancel BBE sound.	

3 Repeat the above steps to adjust other items.

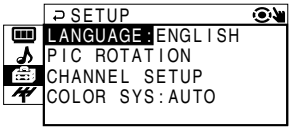
The adjusted settings will be received when you select "PERSONAL".

■ Changing the “SETUP” setting

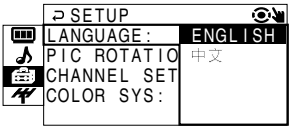
The “SETUP” menu allows you to change the menu language, adjust the picture position, set up your channel numbers and select the color system.

1 Press MENU.

2 Press ↑ or ↓ to select the “SETUP” icon (🧰), then press ⊕.



3 Press ↑ or ↓ to select the desired item (e.g., “LANGUAGE”), then press ⊕.

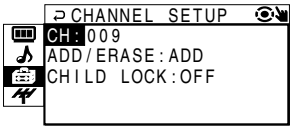


Select	To
“LANGUAGE”	change the menu language. Press ↑ or ↓ to select either “ENGLISH” or “中文” (Chinese), then press ⊕. The selected menu language appears.
“PIC ROTATION”	adjust the picture position when it is not aligned with the TV screen. Press ↑ , → , ↓ or ← to adjust the picture position, then press ⊕.
“CHANNEL SETUP”	adjust each channel number settings (see **Adjusting each channel number settings (“CHANNEL SETUP”)** on page 23).
“COLOR SYS”	change the color system (for video input only). Press ↑ or ↓ to select the appropriate color system, then press ⊕. Normally, set this to “AUTO”.

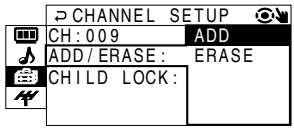
Adjusting each channel number settings ("CHANNEL SETUP")

1 Select "CHANNEL SETUP" from the "SETUP" menu.

2 Select "CH" and press ⊕.
Press ↑ or ↓ to select the desired channel number you want to adjust, then press ⊕.



3 Press ↑ or ↓ to select the desired item (e.g., "ADD/ERASE"), then press ⊕.



Select	To
"CH"	select the desired channel number.
"ADD/ERASE"	preset the selected channel manually. Press ↑ or ↓ to select "ADD", then press ⊕. To disable an unused or unwanted channel, select "ERASE", then press ⊕.
"CHILD LOCK"	prevent children from watching this selected channel number. Press ↑ or ↓ to select "ON", then press ⊕. The lock symbol (🔒) appears on the screen. To cancel, select "OFF", then press ⊕. If you preset a locked channel number, that channel number will be unlocked automatically.

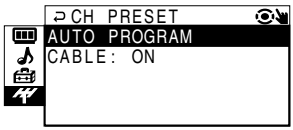
4 To continue adjusting other channel numbers, press ↑ or ↓ to select "CH", then repeat step 2 and 3.

■ Changing the Channel Preset ("CH PRESET") setting

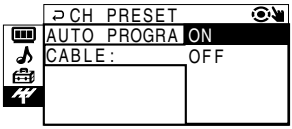
The "CH PRESET" menu allows you to adjust the setup of your TV to receive either CABLE TV or VHF and UHF broadcast.

1 Press MENU.

2 Press ↑ or ↓ to select the "CH PRESET" icon (), then press ⊕.



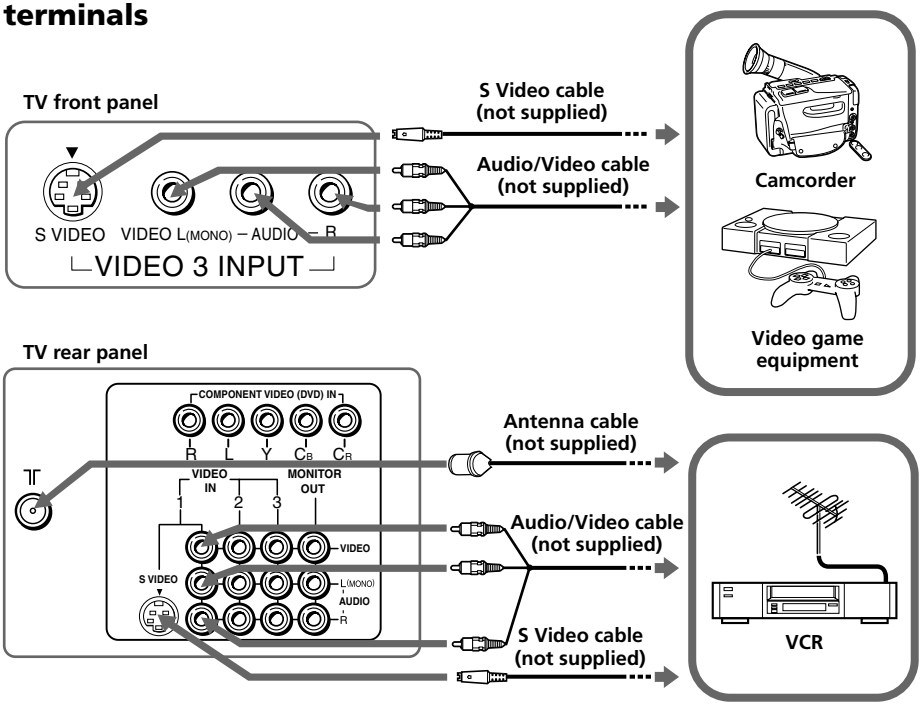
3 Press ↑ or ↓ to select the desired item (e.g., "CABLE"), then press ⊕.



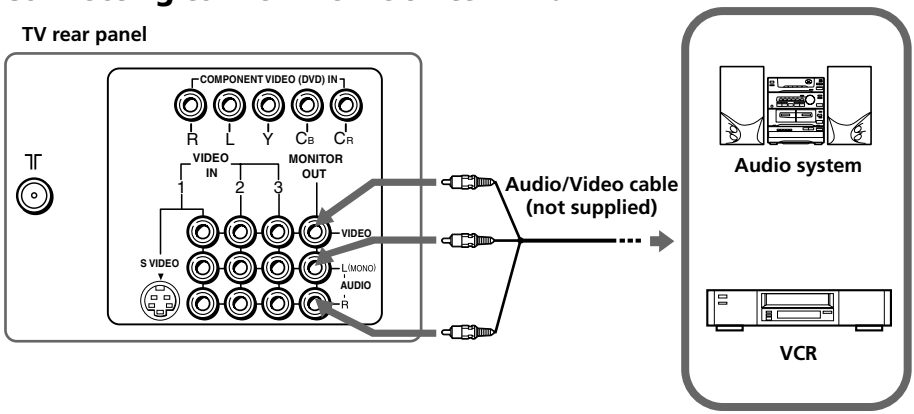
Select	To
"AUTO PROGRAM"	preset channels automatically.
"CABLE"	receive cable TV programs. Press ↑ or ↓ to select "ON", then press ⊕. If you select "CABLE: ON", you will be able to receive 125 cable TV channels. If there are no cable TV channels, you will receive VHF broadcast channels only. To receive only VHF and UHF broadcast channels, select "OFF", then press ⊕.

■ Connecting optional components

Connecting to VIDEO 3 INPUT and VIDEO IN 1,2 or 3 terminals



Connecting to MONITOR OUT terminal

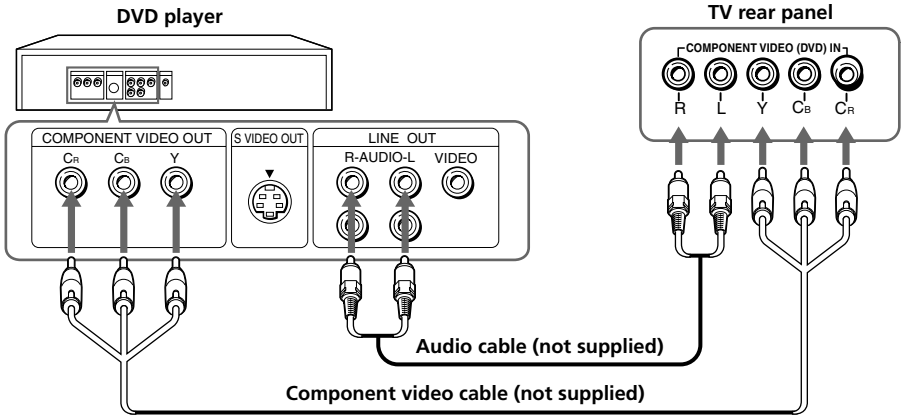


continue

continued

Connecting a DVD player to COMPONENT VIDEO (DVD) IN terminal

1 Using an audio cable, connect R and L under COMPONENT VIDEO (DVD) IN on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.
2 Using a component video cable, connect Y, C_B, and C_R under COMPONENT VIDEO (DVD) IN on your TV to the COMPONENT VIDEO OUT Y, C_B, and C_R output connectors on your DVD player.
3 Press DVD on the remote to watch the COMPONENT VIDEO (DVD) IN and "DVD" will appear on your screen.



Notes

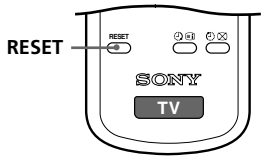
- If your DVD player can output interlace and progressive mode signals, select the interlace output when connecting to COMPONENT VIDEO (DVD) IN on your TV. Your TV can receive either 525i/60Hz or 625i/50Hz interlace signals.
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
C_B (blue)	C_B, P_B, C_b or B-Y
C_R (red)	C_R, P_R, C_r or R-Y

- When both S VIDEO and VIDEO for VIDEO IN 1 or VIDEO 3 INPUT are connected at the same time, S VIDEO is automatically selected. To view VIDEO, disconnect the S video cable.
- If you select "DVD" on your TV screen, the signal from the MONITOR OUT will not be output properly. This does not indicate a malfunction.

■ Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

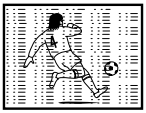


Reset function

Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with "RESET" displayed on your TV screen for about 10 seconds.

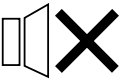
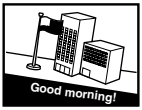
Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture  **Noisy sound**	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	25
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Channel presetting is inappropriate or incomplete.	• Preset the channel again.	24
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture **Noisy sound**	• Broadcast signals are too strong.	• Turn off or disconnect the booster if it is in use.	–
No picture **No sound**	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and VCR connections.	25
	• The TV is not turned on.	• Press POWER. • Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8

continue

continued

Symptom	Possible cause	Solutions	Page
Good picture **No sound** 	• The volume level is too low.	• Press VOL + to increase the volume level.	9
	• The sound is muted.	• Press MUTING to cancel the muting.	9
Dotted lines or stripes 	• There is local interference from cars, neon signs, hair dryers, power generators, etc.	• Do not use a hair dryer or other equipment near the TV. • Check the antenna setup. Contact a Sony dealer for advice.	– –
Double images or "ghosts" 	• Broadcast signals are reflected by nearby mountains or buildings.	• Use a highly directional antenna.	–
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
	• Use of a booster is inappropriate.	• Turn off or disconnect the booster if it is in use.	–
No color 	• The color level setting is too low.	• Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	19
	• The color system setting is inappropriate (for video input only).	• Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	22
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
Picture slant 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other electrical equipment away from the TV. • Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	– 22

Symptom	Possible cause	Solutions	Page
Abnormal color patches 	• The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	• Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.	–
TV cannot receive stereo broadcast sound.	• The stereo reception setting is inappropriate.	• Press MTS until "STEREO" appears on the screen.	14
or	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	25
Stereo broadcast sound switches on and off or is distorted.	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
The STANDBY indicator on your TV flashes red several times after every three seconds.	• Your TV's self-diagnosis function indicates the possible problems.	• Count the number of times the STANDBY indicator flashes. Press ⏻ (main power) to turn off your TV. Contact your nearest Sony service center.	–
TV cabinet creaks.	• Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.	—	–
A small "boom" sound is heard when the TV is turned on.	• The TV's demagnetizing function is working. This does not indicate a malfunction.	—	–

■ Specifications

	KV-AR34N90	KV-AR29N90	KV-AR25N90	Note
Power requirements	110 V AC, 60 Hz			
Power consumption (W)	Indicated on the rear of the TV			
Television system	M			
Color system	NTSC3.58, PAL*, PAL 60*, SECAM* , NTSC4.43*			* AV IN only
Stereo/Bilingual system	MTS			
Channel coverage	VHF : 2 to 13 UHF : 14 to 69 CATV : 1 to 125			
Antenna	75-ohm external terminal			
Audio output (Speaker)	8W + 8W			
Number of terminal				* Three input lines available
VIDEO	Input: 4* Output: 1	Phono jacks; 1 Vp-p, 75 ohms		
AUDIO	Input: 4* Output: 1	Phono jacks; 500 mVrms		* Three input lines available
S VIDEO	Input: 2	Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms		
COMPONENT VIDEO (DVD) IN	Input: 1	Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative C_B: 0.7 Vp-p, 75 ohms C_R 0.7 Vp-p, 75 ohms Audio: 500 mVrms		
(Headphone)	Output: 1	Stereo minijack		
Picture tube	34 in.	29 in.	25 in.	
Tube size	859 mm	724 mm	639 mm	Measured diagonally
Screen size	803 mm	679 mm	598 mm	Measured diagonally
Dimensions (w/h/d)	896 × 686 × 569 mm	765 × 578 × 502 mm	650 × 517 × 496 mm	
Mass	79 kg	49 kg	39 kg	

Design and specifications are subject to change without notice.

Product name:	Color TV
Model:	KV-AR34N90 KV-AR29N90 KV-AR25N90
Input voltage:	110V
Frequency:	60 Hz
Power consumption:	KV-AR34N90 : 220 W KV-AR29N90 : 180 W KV-AR25N90 : 135 W
Production month:	Indicated on the rear of the TV
Serial number:	Indicated on the rear of the TV
Manufacturer country:	Malaysia
Manufacturer:	Sony Technology Malaysia Sdn. Bhd.
Importer:	Sony Electronics Marketing of Taiwan Ltd.
Address:	6F, 198, Sec.2 Tun Hwa S. Road, Taipei
Contact no for service and inquiries :	
Taipei Headquarter:	(02)8732-8822
Taichoong Branch:	(04)2337-5821
Kao Shiong Branch:	(07)556-2246

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